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The Relationship Between the Utilization of Student Support Services and Overall Satisfaction in Medical School

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by

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Dedication

In honour of my mother, Christine Gajadhar-Sookdeo, and in loving memory of my father, Harold L. Sookdeo. Thank you for all the lessons you instilled in us.

To my nieces and nephews - Randy, Deandra, Dylan, Shawn, Shivani, David, Maya, Kevon, Lance, and Kait - may you always believe in your own ability, trust in the power of education, and know the joy of making a difference.

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Table of Contents

List of Tables

Abstract

The purpose of this study was to investigate the relationship between the utilization of student support services and overall satisfaction in medical school. Utilization of services, and overall satisfaction were analyzed by gender, race/ethnicity, and medical specialty choice. In addition, the study identified the most utilized support service, and explored whether utilization of services and overall satisfaction were correlated with academic performance.

Two medical schools in the state of Florida were used for the study, University of South Florida Morsani College of Medicine (USF MCOM), and Florida State University College of Medicine (FSU CoM). Separate anonymous, three-part, on-line surveys were created and administered to fourth-year students. Data were collected on the utilization of the specific academic and psychological support services available at each school. Data were analyzed by medical school (n = 87; n = 71), and as a combined set (N = 158).

Results of a multiple regression analysis, using each support service as predictors, indicated that the utilization of the primary service for academic counseling at both medical schools was inversely related to overall satisfaction. Results also revealed that no significant differences existed for utilization of support services and overall satisfaction by gender, race/ethnicity, and medical specialty choice. The most utilized service at USF MCOM was the Office of Student Affairs. At FSU CoM, the Office of Student Counseling Services was the most utilized.

The findings indicated that utilization of USF MCOM services increased as academic performance decreased; however, there was no significant relationship between academic performance and utilization of services at FSU CoM. A significant relationship existed between academic performance and overall satisfaction; as students' experience of academic difficulties increased, their overall satisfaction with medical school decreased.

The implications from this study can help facilitate an initiative, at both medical schools, to broaden the scope and utilization of the academic and psychological support services to possibly increase their influence on student resiliency, and the overall medical school experience.

Chapter 1

Introduction

Becoming a physician is a journey which involves several years of education and training. A report by the Medicare Payment Advisory Commission (MedPAC, 2009) that outlined this journey stated, the road usually begins at the undergraduate university years with completing pre-medical coursework, while earning a Bachelor's Degree. This is followed by taking the Medical College Admission Test (MCAT) and earning a competitive score to be admitted into a four-year medical school program (also known as *undergraduate medical education*). After earning the Doctor of Medicine (M.D.) degree, a physician's path to practicing medicine continues with at least three years of specialty training at a graduate medical education (GME) residency program, and possibly additional years of training in a subspecialty of choice. Finally, in order to practice in their chosen specialty, physicians are required to get a medical license and board certification by completing licensing examinations and other standard requirements.

The Council on Graduate Medical Education (COGME), in December 2010, noted, in its 20th report to the United States Congress, the current shortage and maldistribution of physicians in certain specialties and especially in those specialties classified as primary care (Internal Medicine, Family Medicine, Pediatrics, and Obstetrics/Gynecology). The COGME predicted that this shortage will continue to accelerate. Medical schools, therefore, may currently have an even greater

responsibility to retain and successfully graduate admitted students. Though the attrition rate in medical education often tends to be lower compared to other higher education programs, any level of attrition in medical education can have notable consequences to the profession, society, institution, and the students themselves (Maher et al., 2013).

The Association of American Medical Colleges (AAMC) reports that there are currently 145 accredited medical schools in the United States. The total number of applications received by medical schools in 2014 was 49,450 (AAMC, 2015a). Out of thousands of applicants, most medical schools will matriculate an average of approximately 140 students into their individual programs each year, which makes for a rigid and fiercely competitive admissions process (AAMC, 2015b).

Undergraduate medical education in American medical schools have long followed the tradition of dividing the four-year curriculum into a rigorous two years of didactic, pre-clinical work, covering the basic sciences, and, two years of clinically-focused experiential learning (Pock, Pangaro, Green, & Laughlin, 2013). Students entering medical schools do not all have the same degree of coping skills or styles of learning; therefore, some will experience academic and psychological difficulties as they learn to adjust to the demands of medical school (Paul, Hinman, Dottl, & Passon, 2009). Maher et al. (2013) found the dropout rate for North American medical students to be 2.68% and identified some of the factors affecting this dropout rate as absenteeism, academic difficulty, social isolation, and psychological morbidity.

These types of factors demonstrate a need for medical schools to offer academic and psychological support services to students. As such, the accrediting body for

American allopathic medical schools, the Liaison Committee for Medical Education (LCME), requires all medical schools to offer such student support services as academic advising, personal counseling/well-being programs, career advising, and access to health services (LCME, 2014).

Sayer, Saintonge, Evans, and Wood (2002) found that medical students are generally highly motivated upon entering medical school; and, the causes for academic failure in undergraduate medical students are diverse and are often not academic in origin. A study conducted by Paul et al. (2009), regarding support services provided to medical students, found that the top reasons medical students sought assistance were due to problems organizing and integrating large amounts of information, mental health issues, and disability accommodations. Consequently, they recommended that "studies be conducted to determine the most effective interventions for improving the quality of medical students' learning and achievement" (p. 259).

Perhaps the most compelling reason for providing student support services in medical school is the fact that individuals who choose medicine as a career have been shown to be at an increased risk for suicide, and the greater suicide rate is apparent even from the medical school years (Schernhammer, 2005). Each year in the United States, approximately 400 physicians commit suicide. The suicide rate among male physicians is 40% higher than males in the general population; and, for female physicians, the rate is 130% higher than the general population (Schernhammer & Colditz, 2004). It stands to reason, then, that the academic and psychological support services offered to students in medical school can potentially play an extremely

important role, not only in fostering a safe and positive medical school environment, but also to the overall field of medicine itself.

Studies have already shown that the general environment of an educational institution affects student satisfaction, learning, and achievement (Miles & Leinster, 2007) and can have a lasting effect on students' attitudes and well-being (Robins, Gruppen, Alexander, Fantone, & Davis, 1997). An assessment of student satisfaction with their institution usually includes their contentment with several academic areas, as well as, areas related to available student resources and services.

Student satisfaction can play a considerable role in institutional success (Bryant, 2006). Any educational institution that wishes to continually improve its effectiveness by implementing academic and organizational changes that serve its student population would certainly need to gather and use data from student satisfaction assessments. Research has shown that when students are satisfied with their overall college experience, their institutions have higher graduation rates, lower default rates on student loans, and more alumni benefactors (Noel-Levitz, 2011).

An increased number of alumni benefactors would be a valuable benefit of student satisfaction for medical schools. Funding for medical schools in the United States usually comes from government appropriations (federal, state, and local), tuition and fees, grants, the parent university, affiliated institutions, endowments and gifts (Jones, Ganem, Williams, & Krokower, 1998). Consequently, any government decision resulting in cuts to the education budget would have an effect on medical schools, leaving them more dependent on their other possible sources of revenue.

In medical education, assessments of student satisfaction tend to focus more heavily on areas related to curriculum design, content, and delivery. Some of these studies, such as the one conducted by Mader, Roseamelia, and Morley (2014), have indicated that medical students start showing a decrease in idealism and empathy as early as their second year in medical school. One of the main reasons for this decrease in empathy has been reported as distress (burnout, low sense of well-being, reduced quality of life) (Thomas et al., 2007). Research indicates that some of the causes for distress among medical students are lack of or reduced social support system, high workload with inadequate amounts of rest, mistreatment from superiors and mentors, and an unsuitable learning environment (Neumann et al., 2011).

The decrease in empathy and high levels of distress among medical students become important issues to address because they can affect quality of patient care when the students enter their clinical years, and certainly, once they enter their next phase of physician training (residency), after graduation (Mader et al., 2014). Empathy has been shown to be a therapeutic tool in physician communication that can produce significant positive outcomes with patients' health (Neumann et al., 2011). A 12-year longitudinal study conducted by Gruehn, Rebucal, Diehl, Lumney, and Labouvie-Vief (2008) found that decline in empathy in adults was not associated with age, but rather with well-being (life satisfaction) and social interactions/relationships with others. The noted causes for distress and decreased empathy in medical students are all areas that can potentially be addressed by a medical school's department of student affairs through their academic and psychological support services.

Race/ethnicity has also been found to be a contributing factor in overall satisfaction among college students (Einarson & Matier, 2005). In undergraduate medical education, only about 18% of the students admitted into American allopathic medical schools each year belong to under-represented racial/ethnic groups (Blacks, Hispanics/Latinos, and Native Americans/Alaska Natives) (Dames, 2012). A large study conducted by Dyrbye et al. (2007) found that minority medical students were more likely to report that their race adversely affected their overall experience in medical school, noting matters such as bigotry, harassment, feelings of isolation, inequitable performance evaluations, and differences in cultural upbringing that impacted their interactions with faculty. In this same study, the students who reported that they had not sought out support from their school's Office of Minority Affairs cited reasons such as: not knowing the resource existed, inconvenient office hours, thinking that the issue would not be handled effectively, and fear of adverse personal consequences.

Statement of the Problem

As the current shortage of physicians is predicted to accelerate, medical schools have an even greater responsibility now to admit, retain, and graduate well-prepared future physicians. A well-prepared future physician will need to not only have the medical knowledge to diagnose and treat diseases and illnesses, but also to have the emotional intelligence that will allow him/her to practice empathetic and compassionate patient-centered care, while successfully navigating the high physical and psychological demands of the profession of medicine. Medical schools, in order to meet these responsibilities, would therefore need to provide an effective curriculum, as well as relevant student support services, and continually assess their students' satisfaction

with the major aspects of their medical school experience to ensure that the students' expectations and needs with the academic program and services are being met.

In their fourth year of medical school, all students are asked, by their medical program, to complete a questionnaire which assesses their satisfaction with their medical school program. The Graduation Questionnaire, as it is called, is administered by the AAMC and includes questions related to the areas of:

- Pre-clinical, clinical, and elective experiences
- General medical education and readiness for residency
- Student services
- Experiences of negative behaviors
- Financial aid and indebtedness
- Career intentions
- Strengths and weaknesses of the medical school (AAMC, 2015c).

Each medical school receives a copy of its results to use for program improvement. Though the literature on American undergraduate medical education includes many separate research studies which focus on student satisfaction with curriculum content and design, a review of the literature showed that there are fewer studies that assess student utilization and satisfaction with the student support services that all medical schools are required to offer. Despite the role support services can potentially play in retention, student well-being, student empathy, and the overall institutional environment, as evidenced by the studies discussed above, the relationship between the utilization of student support services and overall satisfaction in medical school has not been investigated.

Purpose of the Study

Throughout the past decade, the prevalence of mental health issues among the college student population has been increasing (Wyatt & Oswalt, 2013). Graduate and professional school students have also been found to be at risk for high levels of stress due to heavy academic workload, poor balance between academic and personal life, and financial and career concerns (Hyun, Quinn, Madon, & Lustig, 2006). This has certainly been supported by the previously mentioned studies (Paul et al., 2009; Schernhammer, 2005) regarding the prevalence of psychological distress/burnout among medical students.

One approach to further understanding why increasing numbers of medical students might be experiencing distress has been to investigate generational differences between students and physician faculty/administrators (Borges, Manuel, Elam, & Jones, 2010). The majority of today's medical students belong to the Millennial Generation, a generation whose influencing societal experiences, attributes and core values reportedly vary significantly from those of generations before them (Twenge, 2009).

Generational differences and their effect on the way today's medical students might be experiencing medical school will be explored in further detail in Chapter 2; however, there are indications that millennial students' expectations and common personality traits may negatively affect how they perceive their learning environment. This in turn can decrease their satisfaction, increase their level of stress, and lead to poor academic performance (Twenge, 2009) that can put them at risk for distress and/or attrition.

One of the possible implications for medical school programs then would be an increased need to provide academic and psychological support services for their student population. The goals of these support services can include identifying, managing, and increasing awareness of students' psychological and academic concerns, as well as developing and promoting programs that would increase satisfaction and persistence. As with any educational program or service, the effectiveness of these support services would need to be evaluated.

The purpose of this study was to investigate the relationship between the utilization of student support services and overall satisfaction in medical school. The study determined if there were any differences in utilization of support services, and overall satisfaction, by gender, race/ethnicity, and specialty choice. In addition, the study identified the most utilized support service, and explored whether academic performance was correlated with the utilization of services and overall satisfaction.

Research Questions

The following research question were analyzed for this study:

1. What is the direction and strength of the relationship between students' utilization of support services and their overall satisfaction in medical school?
2. What is the difference by gender with the utilization of student support services?
3. What are the directions and magnitude of differences by race/ethnicity and specialty choice with the utilization of student support services?
4. What is the difference by gender with overall satisfaction in medical school?
5. What are the directions and magnitude of differences by race/ethnicity and specialty choice with overall satisfaction in medical school?

6. Which student support service is most utilized at each medical school?
7. What is the direction and strength of the correlation between academic performance and utilization of student support services, as well as overall satisfaction?

Limitations

The study focused on the experience of one cohort of graduating students from two medical school programs in Florida. The experiences of those students within the cohort who had already left the program were not included in the data. The two medical schools used in the study have some differences in program model and the manner in which academic and psychological student support services are offered.

Assumptions

Three assumptions were taken into consideration with regard to this study. First, the participants accurately recalled and indicated their utilization of the academic and psychological services at their schools. Second, the responses were a true reflection of the participants' perception of their overall satisfaction with their medical school experience; and, third, participants answered all questions honestly.

Researcher Bias

The researcher conducting this study previously held professional positions at each of the medical schools that were used in this study. The researcher has seven years of full-time professional experience within the field of medical education which includes five years specifically in the area of student affairs. In addition, the researcher has worked in the psychological field as a therapist for several years. Therefore, the

researcher's interest in conducting this study was a direct result of previous professional experiences and interactions with medical students and physician faculty.

Definition of Terms

The following terms were used throughout the study:

Allopathic medicine. The term used to refer to the usual practice of medicine (allopathy) as opposed to homeopathy or other forms of alternative medicine.

Clerkship. A course in clinical medical training in a specialty (such as pediatrics, internal medicine, or psychiatry) that usually lasts several weeks and takes place during the third or fourth year of medical school.

Medical school. A tertiary educational institution, or a part of such an institution, that teaches allopathic medicine, is accredited by the Liaison Committee for Medical Education, and grants the Doctor of Medicine degree (M.D.).

Satisfaction. The degree to which a student expresses fulfillment on the specific questions regarding his or her medical school experience.

Student Support Services. Psychological and academic services that are offered to students throughout all four years of medical school.

Subspecialty. A narrow field within a branch of medical practice; for instance, child psychiatry is a subspecialty of general psychiatry.

Utilization. The extent to which a student used the support services offered at his or her medical school.

Acronyms

The following acronyms were used within the study:

AAMC. Association of American Medical Colleges

CME. Council on Medical Education

COGME. Council on Graduate Medical Education

ERAS. Electronic Residency Application Service

GME. Graduate Medical Education

LCME. Liaison Committee for Medical Education

MCAT. Medical College Admission Test.

MD. Doctor of Medicine

MSPE. Medical Student Performance Evaluation

NBME. National Board of Medical Examiners

NRMP. National Resident Matching Program

SOAP. Supplemental Offer and Acceptance Program.

USMLE. United States Medical Licensing Examination

Organization of Study

Chapter 1 introduces the study, presenting the problem, purpose, research questions, limitations, assumptions, researcher bias, definition of terms, and acronyms. Chapter 2 includes a review of related literature concerning the history of undergraduate medical education, medical school and the profession of medicine, student affairs, student support services in medical school, student satisfaction in higher education, and overall satisfaction in medical school. Chapter 3 reports the procedures utilized in this study, including research design, population and sample, instrumentation, data collection, and data analysis. The findings of the study are presented in Chapter 4. Chapter 5 includes a summary of the study, conclusions, implications, and recommendations for future research.

Chapter 2

Literature Review

The purpose of this study was to investigate the relationship between the utilization of student support services and overall satisfaction in medical school. The study determined if there were any differences in utilization of support services, and overall satisfaction, by gender, race/ethnicity, and specialty choice. In addition, the most utilized support service was identified; and, the correlation between academic performance and the utilization of services, as well as overall satisfaction was explored. The parts of this chapter review the literature on the history of undergraduate medical education, medical school and the profession of medicine, student affairs, student support services, student satisfaction in higher education, and overall satisfaction in medical school.

History of Undergraduate Medical Education

The majority of the information in this section was taken from the book, *Time to Heal*, due to the sparse amount of available literature on the topic. The book was written in 1999 by Ludmerer who is a physician and leading historian of medicine. His book is consistently cited in the existing articles pertaining to the history of medical education.

In the eighteenth century, allopathic medicine started to become popular in the United States. It was practiced by a few elite doctors who were able to earn their medical degrees from European countries. As this was not a viable option for most

individuals, the most practical mode for educating those who wished to become physicians was the apprenticeship model. Apprentices would pay a small fee and agree to do tasks in return for the opportunity to study medicine with the physician for about three years (ACGME, 2015).

At the early nineteenth century, proprietary (privately owned, for-profit) medical schools that were created to supplement the apprenticeship training model became the chosen avenue for medical education. By the late nineteenth century, over 75 additional proprietary medical schools were created, joining the original four schools: the University of Pennsylvania, King's College, Harvard, and Dartmouth (Ludmerer, 1999).

All that was really required to become a doctor in the United States, during the nineteenth century, was an ability to pay the fees to attend these for-profit medical schools (Flexner, 1910). Ludmerer (1999) reported, the teaching faculty consisted of about eight individuals, many of whom were owners of the school and thus received the remaining money from the student fees, after expenses were covered. The school itself might be located on the second floor of a business, such as a drug store. The curriculum consisted of two terms, each 16 weeks long, with courses being taught mainly through lecture and reading. There was no laboratory work for the science subjects nor were students required to participate in clinical patient care exercises.

According to Ludmerer (1999), the reformation of medical education that led to the development of modern medical education started in the mid-nineteenth century. During this time, a revolution in experimental medicine was taking place in Europe. American physicians who wanted to increase their medical knowledge, particularly in

the area of scientific methods, had to migrate to Germany and France in order to acquire this knowledge. After the period of the Civil War, there was a shift in perspective regarding the purpose of medical education and the teaching methods that should be used. Medical educators believed that medical education should develop student problem-solving and critical-thinking skills. As such, medical educators talked about the need to move away from the traditional lecture-based teaching method, which stressed rote memorization, and emphasized the importance of learning by doing. The idea was for students to be actively engaged in their learning through laboratory work and clinical rotations.

Ludmerer (1999) noted, this idea that medical education needed to depend less on teaching from textbooks was supported by the revolution that was taking place in experimental medicine overseas. New medical discoveries were being made on a regular basis, rendering the information in the traditional medical textbooks obsolete. Medical educators then felt that research and the discovery of new medical knowledge should be an integral part, if not the main focus, of the mission of a medical school. For this change to happen, medical schools could not continue to be separate institutions; instead, they had to be linked to a University. As medical schools became an integral part of Universities, they adopted university values, hired full time teaching faculty who were also researchers, and began to concentrate on the process of learning in undergraduate medical education.

The University of Pennsylvania, Harvard, and the University of Michigan, in the 1870s, were first to make lasting changes to their undergraduate medical education curriculum when they “extended their course of study to three years, added new

scientific subjects to the curriculum, required laboratory work of each student, and began hiring full-time medical scientists to the faculty" (Ludmerer, 1999, p. 4). When Johns Hopkins opened its new medical school about two decades later, it quickly became the model for other medical schools. A college degree became one of the criteria for admission into medical school and the number of students admitted was held to no more than 100. The length of the curriculum was changed to four years, with each term lasting nine months; experiential learning was the primary teaching technique. Students were regularly tested on what they were learning and the faculty was dedicated to teaching and conducting research. By the end of the 19th century, proprietary schools were closing, because the university medical school had become the standard choice for medical training (Ludmerer, 1999).

Ludmerer (1999) noted that the new emphasis on experiential learning through clinical rotations made it necessary for university medical schools to affiliate with hospitals. Educators wished to have medical students participate in active learning through clinical clerkships where they, under supervision, would be responsible for the care and management of a set number of hospitalized patients. Medical school faculty also needed hospital laboratories and patients to further their medical research. Many hospital administrators were leery about joining with a university medical school and allowing students to care for patients. Only the long-established schools, like Johns Hopkins, University of Pennsylvania, and University of Michigan were able to build their own hospitals and, therefore, provide clinical training to their students through clinical clerkships. Other schools depended solely on the good will of affiliated local hospitals to allow them to use the hospital facilities for teaching and research.

By the turn of the 19th century, the Johns Hopkins hospital had gained international recognition for its combined research and education excellence. Other hospitals, therefore, took notice and became more receptive to forming a partnership with university medical schools (Ludmerer, 1999). As medical education continued to change, it resulted in much variance within the curriculum of the existing medical schools; therefore, in 1904, the American Medical Association created the Council on Medical Education (CME) with the goal of creating set standards for schools to follow as they restructured medical education (Karle, 2010).

In 1908, the Carnegie Foundation for the Advancement of Teaching, upon a request from the CME, chose Flexner to conduct a survey of American and Canadian medical schools. The objective of the survey was to identify and eliminate the medical schools that did not meet the CME's set standards. Flexner was not a physician or medical educator, but rather a former headmaster at a private high school in Louisville, Kentucky (Ludmerer, 2010).

Flexner surveyed all 155 medical schools at the time over a period of 18 months. He evaluated each school on five main areas of its program: the criteria for admission, the number and qualifications of the faculty, the laboratory standards, the cost of tuition, and the school's affiliation with a teaching hospital (Beck, 2004). Flexner was outraged by what he found at the majority of the schools, because of the actual lack of qualified faculty, financial resources, and laboratories. He believed that in order to have all American medical schools be at the best educational level, the nation needed to focus on "the development of the requisite number of properly supported institutions and the speedy demise of all others" (Flexner, 1910, p.127).

Flexner completed his final report in 1910. In it, he chastised many of the schools and only recommended that 31 of them remain open. Flexner's recommendations for the restructuring of medical education aligned with the model that Johns Hopkins University had developed for its medical school in 1893. The recommendations included:

1. Increase the prerequisites to enter medical training;
2. Train physicians to practice in a scientific manner and engage medical faculty in research;
3. Give medical schools control of clinical instruction in hospitals; and
4. Strengthen state regulation of medical licensure

Flexner's report greatly influenced the restructuring of medical education (Ludmerer, 2010). His recommendations were implemented by the 1920s. Medical education experienced a revolutionary change. All proprietary schools closed and only university medical schools existed. All schools had admission requirements and adopted the four-year curriculum that placed greater emphasis on experiential learning through laboratory work and clinical clerkships. More full-time instructors were hired and hospitals became affiliated with medical schools. The quality of American medical education even became superior to that of the leading European countries. At one point, European graduates had a failure rate on the New York state licensing exam that was four times greater than the failure rate of their American counterparts (Ludmerer, 1999).

As medical schools became part of the university, it meant they became part of the nation's educational system. As reported by Ludmerer (1999), the schools then

began to receive tremendous amounts of monetary support from government and private donors. Much of the funds came from the General Education Board where Flexner was appointed Secretary. Flexner also convinced private philanthropists to donate to medical education. Medical schools were seen as institutions that served the public. Their mission was to produce skilled physicians who would provide quality patient care.

Ludmerer (1999) stated that the years between World War I and II represented a period of significant growth and prosperity for medical schools. Facilities expanded, new faculty positions were created and departmental budgets increased. Teaching and research became the fundamental activities at the medical schools. Medical research, especially, grew exponentially and received worldwide recognition and respect. American medical researchers won the Nobel Prize for their work, thousands of scientific periodicals were created, and profound advances in understanding and treating diseases were made. Medical students got to enjoy working in the laboratories with instructors who were at the forefront of new research and medical knowledge. In their clinical years, students were able to observe their professors with patients as clinical research had become more patient-focused in nature.

The success of medical research during this period meant that medical schools continued to receive large financial gifts through the private sector, as well as through grants. This financial independence resulted in the autonomy of many medical schools from their parent university.

The period between World Wars also saw the creation of graduate medical education which provided several years of specialized training after graduation from

medical school. Hospitals that were once so resistant to collaborating with medical schools for the purpose of educating medical students, now embraced the opportunity and became *teaching hospitals* that were part of the extended campus of the parent university (ACGME, 2015).

According to Ludmerer (1999), during World War II, medical schools took on the responsibility of caring for the nation's military. Several faculty physicians also enlisted in the military which then created a shortage of faculty at many schools. Under pressure from the government and the military to produce more physicians, medical schools adjusted their curriculum and admission process to meet this demand. The entrance requirement went to just two years of college and a three-year accelerated medical education program, with no summer vacation or elective time, was adopted. Knowledge and training relevant to the war, such as tropical medicine and trauma surgery, were added to the already intense curriculum. Though the number of graduates increased by 5000, the majority of these graduates entered the military soon after their Graduate Medical Education training. As such, the war facilitated greater opportunities for women to enter the field of medicine and earn advanced training upon graduation.

After the war, the medical school entrance requirements and curriculum returned to pre-war standards. Though the United States had a shortage of young medical professors and researchers by the end of the war, World War II served to affirm the excellence of American medical schools and its system, the importance of medical research, the patriotism and service commitment of those in the medical field, and the societal benefits of having quality physicians who provide quality medical care

(Ludmerer, 1999). Consequently, medical schools, especially the most eminent ones, continued to prosper into the 1960s due to the ongoing public, state, and federal support of medical research. By the late 1960s, almost 60% of the income of a medical school came from the government (Ludmerer, 1999).

The medical school curriculum continued to evolve in order to incorporate the new knowledge on diseases, diagnoses, treatment, technology, and medical practice. A notable change to the curriculum was the introduction of a course in pathophysiology in the pre-clinical years. To maintain standardization within the curriculum, national board examinations, developed and administered by the National Board of Medical Examiners (NBME), were issued during medical school and became the solution to the pedagogical problem of objectively evaluating students (Ludmerer, 1999).

Employing full-time faculty became a standard practice and schools began to compete for each other's faculty. In 1952, an experimental program was established by the faculty of Western Reserve University (now Case Western Reserve University). This program emphasized interdisciplinary teaching and the use of multidisciplinary laboratories. The needs of the learners were the focus of the faculty. The program eliminated grades and class ranking, increased elective time, and integrated patient contact into the curriculum a lot earlier. Many of the new medical schools that were established in the1960s were greatly influenced by the Western Reserve model (Ludmerer, 1999).

These new medical schools were established in response to a 1959 report by the Surgeon General's Consultant Group on Medical Education, known as the *Bane Report*. The report projected a severe national shortage of physicians by 1975. It became as

influential a report on medical education as the Flexner report (Ludmerer, 1999) and propelled Congress into action. The creation of new schools and an increase in the number of enrolled students at existing schools resulted in a sizeable increase in the number of physicians by the end of the1970s (Cooper, 2003).

The increase in physicians included female and minority individuals. Several of the medical schools that were closed after the Flexner (1910) report had historically served as the only option for women and minorities to enter medical school (Mader et al., 2016). In the 1960s, the feminist movement and the civil rights movement helped facilitate greater opportunities for women and people of color to enter medical school (Nivet, 2010). As noted by Ludmerer (1999), minority groups had historically faced severe barriers to becoming physicians due to discrimination, segregation, lower economic status, and educational disadvantages. All medical schools were desegregated by 1966. In 1969, the AAMC formed its Office of Minority Affairs and established a task force to work on increasing the number of minority students enrolled in medical school. By 1974, the percentage of minorities enrolled in medical school increased from 3% to 10%. Women fared even better; by the end of the 1970s, the percentage of female students in medical school had increased to almost 28%, compared to just below 10% a decade earlier.

Medical School and the Profession of Medicine

Medical school is often described as a rigorous and difficult educational program (AAMC, 2015b). To understand why, the general curriculum of an allopathic medical school would need to be explored, as well as what the typical day in the life of a medical student entails.

In 1942, The AAMC, the Council on Medical Education, and Hospitals of the American Medical Association created the Liaison Committee on Medical Education (LCME) to serve as the accreditation agency for allopathic medical schools of the United States and Canada. The LCME became much more powerful after the United States federal government officially recognized it and started appointing public representatives to it in 1968 (Ludmerer, 1999).

Today, all established allopathic medical schools, under the jurisdiction of the LCME, are subjected to a site review every eight years in order to maintain their accreditation. To receive federal funding, a medical school must be accredited by the LCME. The LCME puts forth a set of standards covering multiple elements of the overall educational program. According to the LCME,

> The accreditation process requires a medical education program to provide assurances that its graduates exhibit general professional competencies that are appropriate for entry to the next stage of their training and that serve as the foundation for lifelong learning and proficient medical care (LCME, 2014, p. iv).

Despite all the attempts to reform medical education over the decades, the curricular design of medical education has remained essentially the same (Irby, 2011). The LCME (2015) states that a medical education program should include at least 130 weeks of instruction; therefore, the typical medical school program is still four years long and follows a *2 x 2* model, divided by pre-clinical coursework and clinical clerkships (AAMC, 2015b). Standards six and seven of the LCME guidelines pertain to the curriculum of a medical education program and outline the required competencies, objectives, design, and content. To meet accreditation standards, medical schools need to ensure that their curriculum, “includes content and clinical experiences related to each organ system, each phase of the human life cycle, continuity of care; and,

preventive, acute, chronic, rehabilitative, end-of-life, and primary care" (LCME, 2014, Standard 7.2).

Years 1 and 2. The first two years of medical school usually emphasizes factual knowledge in what is typically referred to as the *basic sciences*, as well as the development of critical thinking and communication skills. Each medical school determines the structure and content of its yearly curriculum; however, in general, students take courses such as: gross anatomy, cardiovascular and pulmonary systems, gastrointestinal system, pathology, microbiology, and pharmacology in their pre-clinical years. They also learn how to take medical histories and conduct physical examinations with patients (AAMC, 2015b).

Though students may be enrolled in just four courses per semester, what makes a medical education program difficult is the volume of material students are expected to learn (AAMC, 2015c). Students have often described this learning experience as *drinking from a firehose*. When laboratory, preparation, and study time are factored in, the course load for students during the first two years is equivalent to taking 24 college credits per semester (startmedicine.com). A university graduate level course that is three credits equates to three hours of class time and six hours of preparation time per week. Over the length of an entire 15-week semester, one 3-credit course is equal to at least 135 total hours of time in a student's schedule (USNEI, 2008). Using this formula, the typical medical student, therefore, can spend 72 hours a week on their coursework during the pre-clinical years.

In addition to learning a tremendous amount of information each week and demonstrating their retention and integration of this knowledge through multiple tests,

medical students are also required to take the United States Medical Licensing Examination (USMLE) called *Step 1*, at the end of their second year in medical school. The exam covers the basic medical principles. Step 1 is the first part of a three-part licensing examination process that all future physicians must successfully complete in order to practice medicine in North America (AAMC, 2015c). Though Step 1 was meant to be used for the purpose of achieving licensure, it is a known fact that program directors commonly use the score on this national board exam as a selection criterion for their residency programs (McGaghie, Cohen, & Wayne, 2011). Students, therefore, spend many additional hours studying during their second year, in preparation for this exam, because they believe their future in medicine depends on how well they perform on the exam.

Years 3 and 4. The last two years of medical school, or the *clinical years,* as they are normally referred to, students are expected to take the factual knowledge they acquired in the classroom and apply it in clinical experiences with real patients, while under supervision (AAMC, 2015b). To achieve this, in the third year, students complete rotations at hospitals, or other affiliated clinical sites, in general core clerkships such as internal medicine, obstetrics and gynecology, surgery, pediatrics, and family medicine. Required clerkships will vary by medical school, but students can also complete rotations in such areas as psychiatry, neurology, and various subspecialties (AAMC, 2015b).

These required clinical rotations can be between four to eight weeks long. Depending on the rotation, a student's day can consist of 10 to 14 hours at the clinical site. They are supervised by different residents and/or attending physicians who vary in

personality, teaching style, and learning expectations (AAMC OSR, 1993). These supervising physicians are responsible for evaluating the student's clinical performance on the rotation. At the end of each rotation, students take a required standardized exam, developed by the NBME, in the specific specialty they just completed. There is the opportunity for students to earn an honors grade in these clinical rotations, so they will also spend several hours studying the subject matter during each rotation, because, a student's performance on these clinical rotations is another criterion that residency program directors use when determining which candidates will be granted an interview for a position in their residency program (AAMC, 2015d).

The fourth-year curriculum in most medical schools is made up of mostly elective time, so students have more choice in the rotations they complete (Slavin, Wilkes, Usatine, & Hoffman, 2003). Students have the opportunity to do *externships*, which are electives taken at a medical school other than their own. It is by the fourth year that a medical student has to decide what specialty he or she wants to practice after earning a M.D. degree. As such, students tend to use this period as an opportunity to do a trial run of subspecialties they might be considering going into, as well as to "audition" at residency programs to which they are interested in applying (AAMC OSR, 2015).

The second part of the three-part licensing examination process, mentioned earlier, takes place during fourth year. Referred to as Step 2, this exam assesses understanding of the principles of clinical sciences and patient-centered care. It is made up of two parts: Step 2 CK (clinical knowledge) and Step 2 CS (clinical skills) (USMLE, 2015). Many students choose to take this exam at the beginning of fourth year because the clinical content they studied in their third year is still foremost in their

minds. Some residency programs also require a Step 2 score as part of the application to their program (AAMC OSR, 2015).

Another major component of fourth year is the residency application process. This is the process whereby students apply and get selected to interview for a position in a residency program. Medical students complete the application through the Electronic Residency Application Service (ERAS), provided by the AAMC, from July through September (AAMC OSR, 2015). The Office of Student Affairs at each medical school completes the Medical Student Performance Evaluation (MSPE) for every fourth year student, providing a brief introduction of the student, his/her overall academic performance in the pre-clinical years and specific performance on each core and elective clinical rotation completed in the clinical years to date (AAMC, 2002). The MSPE is released to all residency programs, via ERAS, on October 1st, after which students hope to receive several interview offers (AAMC OSR, 2015).

Students travel to these residency interviews, usually throughout the country, during the months of October through January. Scheduling and planning these interviews can be challenging since students can have over 10 interviews to try to arrange around already scheduled clerkships (AAMC, 2015d). These interviews become very important because they can directly impact where a student might spend at least the next three to seven years of his/her life as a resident physician (AAMC, 2015d).

The residency application process also involves registering with a *residency match program*. This is the electronic system through which a student matches to a residency position for which they interviewed. The majority of students utilize the

National Residency Matching Program (NRMP); however military students, and those who chose plastic surgery, ophthalmology, urology, or neurotology as their medical specialty, may register with different match programs. These students can participate in an *early match,* and learn whether or not they were selected for a residency position at an earlier date than the NRMP registrants (AAMC, 2015d).

A pivotal point for fourth-year students (NRMP registrants), comes in February when they create a *rank order list.* Students choose, from all the residency programs where they interviewed, which program they would like to go to after graduation. They list their choices by order of preference and certify this list online through the NRMP (NRMP, 2015). This entire process culminates at the third week in March when these students receive an email from the NRMP letting them know whether or not they *matched* to a residency program from their rank order list.

For the students who were selected by a residency program, a pivotal moment comes on the third Friday in March when they voluntarily participate in a *Match Day Ceremony*, usually held by their medical school. On this day, they receive an envelope containing the name of the residency program to which they matched and will subsequently be going to for their residency training. Students are not guaranteed a match to a residency program, due to the limited number of residency programs and available positions; therefore, at times, there can be students who will not get selected by any of the residency programs on their rank order list (AAMC, 2015d).

According to the NRMP (2015), those students who did not match to a residency program on their list will be notified of this on the Monday of *Match Week*. They then participate in the *Supplemental Offer and Acceptance Program* (SOAP). The students

will review a list of residency programs throughout the country that still have unfilled residency positions after the Match results are issued. They will then apply to those programs, sometimes for a completely different medical specialty and geographic location than they initially wanted, and wait to receive an interview request from any of those programs. If they receive offers, they are required to make a decision within a specific timeframe, since the offer can go to someone else participating in the SOAP. Students are usually encouraged by their medical school program to accept the first offer they receive.

The profession of medicine. A study of first-year medical students from one medical school in the southern United States found that students envision a career as a physician to be personally and intellectually fulfilling (Guilles, Warren, Salazar, Wagner, & Huff, 2009). They strongly valued the opportunity that the profession of medicine offered to create positive relationships with patients and become change agents in society. They characterized a *good* doctor as someone who "has good people skills, partners with/relates to patients, displays enthusiasm about medicine, goes beyond the call of duty, and is a competent and decisive leader" (p. 6). However, as previously mentioned studies have shown (Mader, Roseamelia, & Morley, 2014; Neumann et al., 2011; Schernhammer, 2005), there appears to be a disconnection between their beliefs and visions upon starting medical school and the reality of being in the profession, once they have graduated.

As noted in Chapter 1, approximately 400 physicians, the equivalent of two or three medical school cohorts, commit suicide each year. It has been documented that physicians, especially during their training years, experience high levels of stress and

are prone to depression, anxiety, substance misuse, and burnout (Linzer, Levine, Meltzer, Poplau, Warde, & West, 2014). Resident physicians have reported that factors such as heavy workload, long hours, added expectations and responsibilities (transitioning from student to trainee and healthcare provider), rotation logistics, death of patients, unsupportive supervisor and/or team, financial debt, sleep deprivation, and planning their careers all contribute to the distress they sometimes experience (Hurst, Kahan, Ruetalo, & Edwards, 2013).

In an attempt to reduce physician distress and improve patient safety, the Accreditation Council on Graduate Medical Education (ACGME), in 2003, implemented new guidelines which mandated a weekly maximum of 80 hours of work, averaged over four weeks, for resident physicians. The guidelines also included at least 10 hours of rest between duty periods; a 24-hour limit to continuous duty; one day completely off within a seven-day period; and in-house call no more than every third night, averaged over four weeks. In 2011, the ACGME further regulated duty hours for first-year physicians in residency by limiting their daily schedule to 16-hour shifts (ACGME, 2011).

Opinions and study results regarding the efficacy of the reduced work hours for resident physicians have been mixed. According to Lefebrve (2014), some studies report a perceived improvement in residents' quality of life; however, other empirical data show that the new regulations have not decreased medication errors or resident physician depression, injuries, and burnout. Additionally, recent research report the physician burnout rate to be between 30 to 65% across medical specialties, with the highest rate being among emergency medicine physicians and primary care doctors (Linzer et al., 2014).

The current prevalence of physician burnout across medical specialties suggest that the cause for this phenomenon is multifactorial. Practicing physicians have identified time pressures, work volume, multiple responsibilities, hospital and insurance company bureaucracy, chaotic work environment, introduction of new electronic medical records technology, patient-care and personal-life demands, and the fear of ligation as some of the factors contributing to their distress and burnout (Wallace & Lemarie, 2007). Adding to the phenomenon is the tendency of physicians to avoid or deny their distress and therefore not seek help from others. The culture of the medical profession also seems to foster this behavior since it promotes self-sacrifice, self-reliance, and non-disclosure of psychological/emotional issues (Wallace & Lemarie, 2007).

To combat the high prevalence of physician distress and burnout, some have suggested and already implemented wellness programs for resident physicians. These wellness programs take a proactive and preventive approach by promoting awareness of distress symptoms, teaching coping strategies, developing mentoring and confidential support initiatives, planning social retreats and charitable work, and offering wellness workshops as part of the residency curricula (Lefebrve, 2014). One study has already shown that physicians consider social support from family and colleagues, as well as high levels of work resources, as positive contributors to physician well-being (Wallace & Lemarie, 2007). Furthermore, Linzer et al. (2014) suggested making physician satisfaction and well-being quality indicators for institutional success, incorporating mindfulness and teamwork into practice, and adding self-care as a component of medical professionalism.

The millennial medical student. A generational cohort consists of individuals who were born and raised in a common time period spanning approximately 20 years. These individuals are thought to be shaped and influenced by their shared history, key life events, environmental forces, and societal icons. As a result, individuals of a generational cohort can have common values, beliefs and behaviors (Borges, Manuel, Elam, & Jones, 2006).

In the past decade, there has been considerable attention given to generational differences and how they affect businesses and educational institutions. This is due to the fact that the workforce of today consists of four generations: the Traditionalist (born 1937-1945), the Baby-Boomers (born 1946-1964), Generation Xers (born 1965-1980), and the Millennials (born 1981-2000) (SHRM, 2009). This unique situation brings with it the advantage of expansive knowledge and experience, but also produces challenges, as these generations can have significant differences in work styles, expectations, and values (SHRM, 2009).

Traditionalists were raised by parents who lived through the Great Depression and had World War II as a key event in their childhood. As a result, they may tend to view work as a privilege and believe in sacrifice, commitment to a company, delayed gratification, respecting and trusting hierarchy/authority, and being fiscally prudent. The Baby Boom generation is the largest one within the United States and has had a significant societal impact (SHRM, 2009). The major influencing events of their generation were the civil rights movement, the Vietnam War, women's liberation movement, the sexual revolution, and the advent of space travel. Baby Boomers enjoyed the prosperity of the post-World War II society and are typically characterized

as optimistic, driven, and competitive. It is said that they tend to value personal growth, equal opportunity, recognition, and a strong work ethic (Coulter & Faulkner, 2014).

Those belonging to the Generation X cohort are referred to as *latch-key children* because they were raised in households where both parents were employed. This was also a period marked by high divorce rates and economic uncertainty. These individuals are reportedly skeptical, self-reliant, and independent. They value results, balance in life, independence, professional diversity, and entrepreneurship. Millennials' key societal influencers were high-speed communications, publicized terrorist attacks and school shootings, and a highly diversified and prosperous population. This generation is said to be characterized by their scheduled lives, high self-confidence, optimism, and sense of entitlement (Coulter & Faulkner, 2014).

One of the fields where multigenerational issues can factor into the daily work environment is Academic Medicine. The workforce for an academic health center usually consists of Traditionalists and Baby Boomers who are in senior faculty and leadership positions; while the Generation Xers are the mid-level or junior faculty who are supervising and training the Millennial resident physicians and medical students (Howell, Servis & Bonham, 2005). Howell et al. (2005) showed how this structure has contributed to conflict and discontent among those in medicine. Differing perspectives on areas such as workload, work hours, formal evaluation procedures, and job commitment and security were apparent among senior faculty and resident physicians/medical students. Senior faculty tend to view extended work hours and additional workload as a reasonable expectation, perhaps due to their generational value of self-sacrifice and believing that hard work leads to prosperity; however, the

resident physicians and medical students tend to view this as unacceptable and unnecessary as they strive for greater work-life balance, as well as professional fulfillment.

In a study conducted by Borges et al. (2006), the researchers investigated the personality differences between Generation X and Millennial medical students. The 16 Personality Factor Questionnaire was completed by 809 medical students from one medical school in Ohio. The personality dimensions measured by the instrument were: Warmth, Reasoning, Emotional Stability, Dominance, Liveliness, Rule-Consciousness, Social Boldness, Sensitivity, Vigilance, Abstractedness, Privateness, Apprehension, Openness to Change, Self-Reliance, Perfectionism, and Tension. Results showed significant differences between the two generations in 10 of the 16 personality dimensions.

The Millennial medical students' scores on Warmth, Rule-Consciousness, Emotional Stability, Sensitivity, and Perfectionism were significantly higher than those of the Generation X students, while the Generation X students scored higher on Self-Reliance than the Millennials. A more in-depth analysis of the study results showed that Millennial students were more abstract than concrete in their reasoning, and more dutiful, socially bold, sensitive/sentimental, self-doubting/worried, and open to change.

Twenge (2009) conducted a cross-temporal meta-analysis by gathering the results from previous studies where individuals from different generations completed well-validated psychological questionnaires. The meta-analysis revealed that Millennial students tended to score higher on certain personality traits and measures, including: assertiveness, self-liking, high expectations, stress, anxiety and poor mental health.

Recognizing the need for additional empirical evidence of generational differences among the two generations most represented in the medical field today, Borges, Manuel, Elam, and Jones (2010) went on to further investigate the differences in motive between Generation Xers and Millennials. Using the Thematic Apperception Test, a personality assessment that measures a person's current needs, emotions, conflicts and motives, the researchers found that Generation X medical students scored higher on the need for Power, while Millennials scored higher on the need for Affiliation and Achievement. This suggests that Millennials have a stronger need to belong to social groups and to succeed.

The results of these studies suggest that there may be a strong probability that Millennial medical students will experience distress, not only during the rigorous medical school curriculum, but also during residency training, given their higher scores on perfectionism, need for achievement and affiliation, stress and anxiety, as well as their lower score on self-reliance. This will therefore have implications for medical school programs as they adhere to their responsibility of graduating well-qualified and prepared individuals. The prevalence of certain personality traits, needs, preferences, and attributes among Millennials may necessitate changes to the curriculum design/content (perhaps to incorporate education on wellness), instructional and evaluative approaches, available academic and psychological services (such as wellness programs being used in residency), and available advising/career development programs, in order to successfully prepare the next generation of physicians (Borges et al., 2006).

Student Affairs

Student affairs work emerged in American higher education after the Civil War, as a result of the political, social and economic changes that followed (NASPA, 1987). As more faculty began to lose interest in student activities and focus their time outside the classroom on research, some universities created administrator positions to handle student matters and concerns that arose. These positions fell into two groups: Deans of Men and Deans of Women (Dungy & Gordon, 2010). Records indicate that many of the Deans had a teaching background in liberal arts, were religious, and demonstrated strong leadership qualities. They were recognized by students for their compassionate and caring nature (Rhatigan, 2009).

A third group of positions, called personnel workers, developed in the twentieth century. Rhatigan (2009) stated the personnel program was developed by Scott in 1911. Scott was a psychologist at Northwestern University and, therefore, used the principles and practices from the fields of psychology and measurement to develop the program. These personnel administrators provided mainly career guidance and mental health counseling to students while the Deans focused on overall student experience and professional readiness.

As student enrollment in higher education continued to increase, student affairs offices necessarily expanded. The American Council on Education (ACE), in 1937 tasked a group of educators with assessing student affairs services. The results were summarized in a document entitled *The Student Personnel Point of View* (NASPA, 1989). The document was later revised in 1949; however, the basic tenets remained the same. According to Rhatigan (2009), the overarching philosophy is reflective of

Dewey's humanist perspective of taking a holistic view of the student. The document advocated for higher education goals that developed students' understanding of democracy, international matters, and the role that higher education can play in solving social issues (Dungy & Gordon, 2010). The following two paragraphs from the document summarize the core beliefs which continue to serve as the foundation for the principles and practices of student affairs in higher education:

> One of the basic purposes of higher education is the preservation, transmission, and enrichment of the important elements of culture–the product of scholarship, research, creative imagination, and human experience. It is the task of colleges and universities so to vitalize this and other educational purposes as to assist the student in developing to the limits of his potentialities and in making his contribution to the betterment of society.
>
> This philosophy imposes upon educational institutions the obligation to consider the student as a whole–his intellectual capacity and achievement, his emotional make up, his physical condition, his social relationships, his vocational aptitudes and skills, his moral and religious values, his economic resources, his aesthetic appreciations. It puts emphasis, in brief, upon the development of the student as a person rather than upon his intellectual training alone. (ACE, 1937, p.1)

Student Affairs experienced exponential growth after World War II due to the resulting changes to society during that period. Colleges saw an influx of veterans due to the establishment of the Servicemen's Readjustment Act (G.I. Bill of Rights) which provided cash payments to veterans for education tuition and living expenses. Women and minorities were also enrolling in college in greater numbers; therefore, new programs and services had to be developed within student affairs to serve the needs of the diverse student population (Rhatigan, 2009).

The period of social unrest during the 1960s produced numerous changes to higher education that affected Student Affairs (Nuss, 2003). As student activism increased throughout many of the universities, students became disillusioned with

higher education institutions as universities became *just another system* that they could not trust (Sorey & Gregory, 2010). Such a change naturally affected student affairs divisions, which by this time had become a major component of the university system (McClellan & Stringer, 2009). Prior to this time, the role of student affairs personnel was often viewed as functioning *in loco parentis*, meaning, as a surrogate parental authority figure and disciplinarian (Dungy & Gordon, 2010); however, by the mid-1970s, a shift in the theoretical and research framework for student affairs moved the focus and primary role of student affairs personnel to *student development* (NASPA, 2010).

Increased federal funding and legislation during the 1960s and 1970s resulted in laws that impacted the policies and practices of the student affairs field over the last two decades of the 20th century. New federal regulations provided equal access for underrepresented groups to federally funded educational programs (Nuss, 2003). Student affairs became more inclusive, new organizations formed and professional associations expanded. Universities saw increased enrollment of racially, culturally, and religiously diverse students, as well as those who were physically disabled or had differing sexual orientations (Rhatigan, 2009). Consequently, the field of student affairs created specialized positions in areas such as financial aid, student support services, and mental health to meet the needs of the evolving student population (Nuss, 2003).

The last two decades of the twentieth century also brought more attention to the need for formal assessment of student affairs programs, as well as a focus on the interconnection between student development and student learning (NASPA, 2010). As a result, principles of good practice for student affairs (NASPA, 1998) and professional standards for the field were established (Nuss, 2003). In 2004, the

American College Personnel Association (ACPA) and NASPA published *Learning Reconsidered: A Campus-Wide Focus on the Student Experience* which highlighted and reiterated the philosophical core of student affairs. The concept of adhering to a holistic approach to the development of the student, while simultaneously supporting the academic mission of higher education and partnering with the rest of the academic community, remained the goal of student affairs divisions and continued to be the foundation of student affairs work into the twenty-first century (Dungy & Gordon, 2010).

History of student affairs in medical education. A search of the literature, as well as communication with the AAMC, produced sparse information on the specific history of student affairs in undergraduate medical education itself.

In the 19th century, when medical schools had not yet become university-based, the faculty at the school assumed all the responsibility for teaching and supporting the students. Consequently, faculty and students were able to maintain close relationships. Many of the wives of the faculty members would host tea parties for the students and other faculty, fostering the sense of a family unit (Ludmerer, 1999).

After World War I, privately owned medical schools were closed and the existing schools were all part of a university system. Research and patient care became the priority of many of the medical school faculty which then shifted their attention away from the students. The personal attention and contact the students once enjoyed began to diminish. To try to maintain some close involvement with the students, some universities, in the 1930s, created a Committee on Student Relations. Though these committees helped, the atmosphere at the medical schools continued to grow less

intimate due to the expansion that the schools experienced during the post-war period (Ludmerer, 1999).

According to Ludmerer (1999), the main source of support for the students came from their peers. Students regularly studied and ate together, they formed fraternities and sororities, and upperclassmen and alumni advised students as they progressed through the stressful medical school curriculum. However, women and minority students experienced additional challenges with this because of institutional discrimination that secluded them from their fellow classmates, such as separate dining rooms and housing facilities. Though the literature does not specifically state that the student affairs division of the medical schools provided support to the students, it did mention that the medical schools often held luncheons and social events as sources of support for the students.

It stands to reason that student affairs personnel would have provided support for the students, since each medical school was part of a university system by the 1920s, and student affairs divisions were already part of the university system by then. Indeed, the first publication of the LCME's *Functions and Structure of a Modern Medical School* (1957), states that medical schools should provide access to student counseling and have student health services in place. The document further mentions, under its *Organization and Administration* section, "Because of diverse and heavy responsibilities placed upon the dean or executive officer, assistance by suitably qualified persons should be provided. In many medical schools, for example, there is an assistant dean who devotes major attention to student affairs. . ." (p. 68).

Student Support Services in Medical Education

Helfgot (2005) defines student services within the university setting as:

> those programs, services, and activities provided or made available to students by a college's division of student affairs. These often include, but are not necessarily limited to, outreach and recruitment, admissions and records, assessment, advisement, orientation, financial aid, academic support programs, counseling, career planning and placement, and student activities, athletics, health and wellness, and college safety. (p.7)

The LCME, as part of the support services standards for medical students, requires all medical schools to provide effective academic support, career advising, debt management counseling, personal counseling/well-being programs, and access to health care services (LCME, 2014). The LCME does not dictate how or by whom these services to students should be provided. Many medical schools have distinct offices, personnel and student affairs departments that provide these services. Paul, Hinman, Dottl, and Passon (2009) found that the personnel involved in overseeing and/or providing these support services have doctoral or master's degrees and frequently have a professional background in psychology/counseling and education.

It is reported that approximately 25% of medical students in the United States suffer from symptoms of mental illness and that feelings of distress is also quite common (Dyrbye, et al., 2010; Roberts et al., 2001). In their preclinical years, medical students can experience anxiety, sleep deprivation, and stress due to the sudden significant change to their lifestyle and routine upon starting medical school and into second year (Guthrie, et al., 1995; Wolf, Elston, & Kissling, 1989). Students in their clinical years may show signs of depression and anxiety due to mistreatment by supervising physicians and residents while on their clerkships, exposure to dying

patients, and personal life events (Dyrbye, Thomas, & Shanafelt, 2005; Roberts et al., 2001).

A study by the Academic Development Special Interest Group further explored the types of difficulties experienced by, and subsequent services provided to, medical students during each year and throughout all four years of their medical school program (Paul et al., 2009). Previously identified support services personnel at 36 medical schools in the central United States area were surveyed for the study. Data showed the majority of support services offered to students occurred during their first two years and was related to stress management, time management assessment of learning style, test anxiety, study skills, and tutoring. The most common student issues found throughout all four years of medical school fell into the general categories of: organizing or integrating vast amounts of information, test taking or test anxiety, time management, and stress/anxiety not related to exams. Though mental health services were among the most common needs throughout all four years, the frequent response from the schools was to provide service referrals to the students, rather than provide the actual mental health screening within their departments. It was recommended that further studies be conducted to determine the best interventions for medical schools to undertake in order to improve the quality of the learning experience for their students.

A qualitative study conducted by Reaume and Robb (2005) gave the students' perspective on the most prominent stressors during their pre-clinical years. The sample consisted of 36 first- and second-year students who answered an email survey regarding their transition into medical school, self-regulated learning practices, and the use of learning strategies. Students reported that the biggest difficulty they had with

transitioning from the pre-medical curriculum to medical school was the increased volume of information they were expected to learn. The learning strategies the students identified for helping them to adapt to this increased level of stress and volume of material included: pacing and establishing a balance, targeting only select information when studying, and controlling stress. Students were also able to identify self-regulation techniques, such as greater awareness of what was not working, which helped them to navigate through the transition period. The small sample size was a limitation in this study; but, the results, as in other studies, support the need for medical schools to conduct further research like this in order to establish stronger support services for students, especially in the first two years of medical school. In addition to helping students learn how to achieve balance, the researchers suggested developing learning skills programs that could increase metacognition and also explore whether self-regulation practices could be taught to students.

Delving further into the students' perception of the stress they experience and the coping strategies they use during their pre-clinical years, Lee and Graham (2001) conducted a qualitative study using 22 medical students who had enrolled in a wellness elective at Case Western Reserve University. Themes from the student narratives showed that the first- and second-year students found it difficult to find time to engage in relaxing activities and often experienced feelings of guilt if they did spend some time relaxing. One student stated:

> Relaxation is a very important, but yet, a very difficult task while in medical school. The main problem for me is to decide on a time devoted solely to relaxation without feeling guilty about not studying. The reason for this is that, in medical school, one can always study more. (p. 654)

Many stress management strategies were mentioned in the narratives; however, the most common one used among the students was *talking to others,* including their peers. The researchers also garnered the students' perspective on the effectiveness of the wellness elective. The majority of students evaluated the elective positively. Narrative comments showed that the students appreciated learning more about effective coping strategies and gained a sense of comfort and collegiality from knowing they were not alone in their experience.

Becker (1995) investigated the reported level of stress from a class of first-year medical students. Data were then broken down by gender, academic attributes, coping strategies and personality traits. Various instruments were used to collect data at three different intervals during the first year. Analysis of the data showed increased levels of depression and stress as the year progressed. Being male was found to be a protective factor with depression, but a risk factor with anxiety. This study highlights the need for student support services in medical school, starting from the first year. It also provides data that can be used to guide the development of support services that would meet the specific needs of medical students.

As mentioned in Chapter 1, medical students have a higher rate of depression and suicide than that of the general population. Studies have shown that symptoms of depression tend to peak in medical students at the end of second year; and, medical students tend not to utilize counseling services, or, may not have access to these services at all (Dyrbye, et al., 2005; Givens & Tjia, 2002). To further investigate this, Givens and Tjia (2002) surveyed 194 pre-clinical medical students. Of the students surveyed, 24% met the assessment criteria for depression, but only a quarter of those

depressed students were utilizing counseling services. The most frequently reported obstacles to using the mental health services were: Lack of confidentiality, fear of adverse academic consequences, lack of time, expense, and the stigma associated with needing mental health services.

Burnout is another mental health concern that has been associated with medical students and physicians. It is described as emotional exhaustion, depersonalization, and a low sense of accomplishment (Dyrbye, et al., 2005). In a literature review, Ishak, Nikravesh, Lederer, Perry, Ogunyemi, and Bernstein (2013) found nine studies on the prevalence of burnout among medical students. These studies reported a prevalence of burnout ranging between 45 and 71%. The causes for burnout in the pre-clinical years were consistent with the findings of the previously mentioned studies (Paul et al., 2009; Schernhammer, 2005; Thomas et al., 2007). In the clinical years, some of the causes for burnout were reportedly long hours spent on rotations, organization of the clerkships, and cynicism among residents while on rotations. Burnout was also shown to be associated with recent suicidal ideation and thoughts of dropping out of medical school.

Dyrbye et al. (2007) investigated the effects that race and ethnicity have on medical students' well-being. Five medical schools and 3080 medical students were surveyed for the study. Results did not indicate any significant difference in the prevalence of depressive symptoms by race/ethnicity; however, indications of burnout were higher among non-minority groups. The minority students who reported that their race/ethnicity negatively affected their medical school experience were more likely to show burnout, lower mental quality of life, and depressive symptoms. The study found

that race and ethnicity did affect the overall experience that students had in medical school.

The study by Tekian, Jalovecky, and Hruska (2000) further explored the experience of minority students in medical school. The researchers aimed to examine how mentorship and advising impact the experience and performance of underrepresented minority (URM) medical students. The sample students were identified as at risk for a delay or withdrawal from the program. During the four-year period that was under study, 895 students graduated and 166 were URM students. Sixty-two students withdrew from the program and 32 of those were URM students. The students were surveyed about the influence of their advisor/mentor. Results revealed “significant relationships between a student's medical school experience and performance and whether or not they have a mentor and whom they choose as a mentor” (p.1). Results also showed that a student’s evaluation of their advisor’s efficacy correlated with whether or not the student experienced any delays in medical school training. A student's sense of integration with the school environment was also significantly related to their experience with their advisor and mentor.

In an attempt to understand the health concerns of medical students and possibly bring additional insight and suggestions to decreasing the prevalence of distress in medical school, Roberts et al. (2001) surveyed 1027 students from nine medical school regarding their health concerns and beliefs about adverse academic consequences. The study included students in the pre-clinical and clinical years. Though the reported health concerns varied in type and severity, 90% of the students reported needing health care services during medical school. The results showed that mental health

issues, such as anxiety and depression, were higher among the female students. The study also indicated that medical students believe their professional goals would be in jeopardy if their health issues, especially those of a psychological nature, were to become known to others. This belief was higher among racial minorities, women, clinical-level students, and those at particular medical schools in the study. Students reported that they would prefer to receive treatment for their health concerns at off-campus sites where insurance would be accepted. The researchers recommended that medical schools have discussions with students about health concerns that may arise and the importance of seeking health care. They also suggested that faculty and residents who supervise students be made aware of these discussions. They added that leaders in administration should ensure that their program's approach to student's health issues is aligned with the appropriate legal and ethical standards regarding non-discrimination.

Dyrbye et al. (2005) also looked at the causes for distress among medical students and proposed solutions. Some of the additional causes for distress that they identified were ethical conflicts, exposure to human suffering and death, negative personal life events, and educational debt. To help decrease distress, the authors suggested that medical schools:

1. Establish and promote a nurturing learning environment by creating student-faculty mentoring programs, having student-led support systems (buddy program), facilitating social events between the cohorts, offering faculty development sessions that promote compassion and professionalism among

residents and supervising faculty, and allowing student participation in curriculum development.

2. Identify and assist students who are struggling by establishing an ombudsman program, having off-campus counseling services, and offering affordable student health insurance plans.
3. Teach stress management and self-awareness skills.
4. Promote sound health care practices by facilitating discussion sessions between physicians and students about ways to effectively balance work and personal life; as well as, allowing students to have some time off between rotations.

Student Satisfaction in Higher Education

The mark of an effective educational institution is its ability to produce qualified graduates (Tessema, Ready, & Yu, 2012). Higher education institutions face a continual challenge of meeting the needs of changing student populations in order to ensure that institutional goals and missions are met. Every new generation of students and additional demographic groups may bring with them varying expectations, preferences, values and attributes (ACPA NASPA, 2004). Students who believe their education was valuable and that their overall college experience was good are likely to promote and support their school (Tessema et al., 2012).

To assist them in managing the challenge of meeting students' needs, colleges and universities often administer student satisfaction surveys. These surveys can serve to gather information on student expectations and satisfaction measures on academic programs, university resources, student services, campus climate, and overall campus experience. Researchers in higher education have used these satisfaction surveys as

accountability tools for educational programs and services, to develop and improve curriculum content and instruction, and to learn more on the effects of student expectations on overall satisfaction with the college experience (Tessema et al., 2012). Results from these surveys, then, can prove to be of great benefit to college administrators as they work on strengthening their institution's effectiveness through improving the noted areas with low ratings and marketing the indicated organizational strengths. Though some level of dissatisfaction is to be expected, higher education institutions have a responsibility to try to meet any reasonable student expectations that have not been met (Miller, 2005).

Students' expectations are linked to their interpretation of past experiences, but these expectations are in a continuous state of flux, since they can be affected by new experiences (Howard, 2005). When students matriculate into a degree program, they enter into a psychological contract with the higher education institution. A psychological contract includes a formal contract (admissions into the program) that involves "the reciprocal exchange of things of value (tuition, fees, a diploma, and greater career opportunities) and subjective interpretation of the terms and conditions of the arrangement (learning environment, amount of effort required, and the role of faculty)." (Howard, 2005, p. 26). This contract is ongoing and student satisfaction is tied to the perceived fulfillment or violation of this contract.

Several constructs have been studied to determine which factors affect student satisfaction. The research varies on which constructs play the more important role. Existing validated satisfaction instruments such as, the National Survey of Student Engagement (NSSE), and the Student Satisfaction Inventory (SSI) use indicators in

areas such as academic challenge, academic advising, interaction with faculty, campus environment, and support services when measuring student expectations and overall satisfaction.

In a national study of adult learners' satisfaction, conducted by Noel-Levitz, Inc., and the Council for Adult and Experiential Learning (2011), 29,679 students from 61 four-year colleges were asked, over a time-period of three years, about the levels of importance and satisfaction they place on several constructs related to the undergraduate college experience. The constructs were based on the *Principles of Effectiveness for Serving Adult Learners*, as defined by Council for Adult and Experiential Learning. Data were reported to reflect order of importance by construct and the results were as follows: Outreach, Life and Career Planning, Financing, Teaching-Learning Process, Technology, Transitions, Student Support Systems, and Assessment of Learning Outcomes. The Outreach and Life/Career Planning constructs that students listed as more important to their satisfaction with their college experience included such components as: the institution clearly explaining what is needed to complete the degree program, clearly defined course objectives, courses being relevant to career and life goals, and faculty being available and approachable.

It seems logical that undergraduate students' satisfaction with their college experience would be linked to institutional outreach practices and life and career planning, since the majority of these students would be at the beginning of their career path. Graduate and professional school students, however, belong to distinct groups and therefore may have different needs and expectations than undergraduate students (Nesheim, Guentzel, Gansemer-Topf, Ross, & Turrentine, 2006).

Research on satisfaction among graduate and professional school students usually occurs as an extension of studies focused on attrition. The attrition rate among doctoral students has been around 50%, with students leaving either after the first year, before completing all coursework, or prior to finishing their dissertations. Attrition with this population tends to be categorized as an individual issue thereby removing responsibility from the educational program (Nesheim et al., 2006).

According to Barnes and Randall (2012), one of the validated instruments used to collect data on student satisfaction among graduate and professional school students is the *National Doctoral Program Survey*. It measures several areas thought to be of importance in doctoral education, including: "information for prospective students, curricular breadth and flexibility, teaching, professional development, career guidance and placement services, time to degree, faculty mentoring, financial support/resources, program climate, and overall satisfaction" (p. 51). Research indicates that satisfaction among doctoral students is tied to the extent to which they felt their program clearly defined and explained requirements and expectations for degree attainment, the availability and quality of mentoring/support from faculty, and how well they feel their program prepared them to enter various types of positions (Barnes & Randall, 2012).

Among the professional school programs, there seems to be more student satisfaction studies related to doctoral programs compared to law and medicine. This is perhaps due to the fact that the attrition rate is much lower in these programs compared to doctoral programs. One can deduce then that law students and medical students can be placed in an even more unique and distinct group, given the specific requirements

for attaining those degrees; and, consequently, those students may have their own needs and expectations that affect their overall satisfaction with their school experience.

Overall Satisfaction in Medical School

The AAMC reports that the four-year graduation rate for medical schools is approximately 81% (AAMC, 2014). Though this rate is considered as high, it can be inferred that it does not necessarily equate to high levels of student satisfaction with their overall medical school experience, given the empirical evidence on the high prevalence of distress and burnout among medical students. A review of the literature on student support services in medical schools and students' overall satisfaction with their medical education experience revealed that there was little information on the utilization of support services by students in North American medical schools. There were no reports on what role the use of student support services plays in overall student satisfaction in medical school.

Robins, Gruppen, Alexander, Fantone, and Davis (1996) conducted a study to assess the learning environment at the University of Michigan Medical School. The study was launched after students and faculty gave the program and the overall climate low satisfaction ratings. The objective of the study was to determine which factors influence students' satisfaction with the medical school environment; since, research had shown that the academic environment can influence students' persistence in medical school and their attitudes towards various medical specialties. Three years of survey data was used and included 430 respondents. Results of the study showed that students, regardless of gender and ethnicity, greatly valued positive interactions with faculty and feeling like the faculty had a vested interest in their education. The study

also indicated that white males tend to be more satisfied with the learning environment because they felt comfortable approaching their teachers. Women and minorities did not feel comfortable interacting with faculty. For minority students, satisfaction was also tied to the amount of constructive feedback that was given.

Robinson (2004) also explored the academic environmental factors that influence student satisfaction and persistence in medical school. The study was conducted using second-year students from two medical schools in Tennessee. Data were broken down by gender and ethnicity. The results showed that satisfaction with their academic performance was related to the degree to which they felt the academic environment at their medical school was supportive. Students perceived their academic environment as supportive if the program adhered to a student-centered approach to teaching and learning, their financial needs were being met, they felt socially integrated and they were able to establish positive relationships with their peers and faculty.

Data from the AAMC (2007) show that the attrition rate for medical schools is less than 3%; however, the rate of attrition for racial/ethnic minority students in the first two years of medical school tends to be higher, irrespective of MCAT score. To understand possible reasons behind that fact, Gartland, Hojat, Christian, Callahan, and Nasca (2003) further explored differences by race with satisfaction in medical school. A 17-item questionnaire was mailed to equal numbers of African-American physicians and Caucasian physicians. Participants were matched by gender, year of graduation and scores on the Step 2 national board exam. The researcher compared the answers of African-American and Caucasian physicians to questions regarding their satisfaction with their medical school experience, their medical careers and their professional

achievements. No significant difference was found between groups with overall satisfaction with medical school experience, medical career or professional achievement; however, African-Americans reported a greater level of dissatisfaction with their medical school environment and interactions with faculty and administrators.

Summary

This chapter first provided an overview of the history of undergraduate medical education in the United States, starting with the 18th century and ending with the 1970s. This was followed by a description of the standard medical school program, the demands of the profession of medicine, and the generational differences that seem to exist among those in the field of medical education today. To show the ways in which some of the challenges faced by today's medical student are handled and can possibly be improved, the areas of student affairs and the support services offered through that department were explored. The limited research on the role that these support services might play in a student's overall satisfaction with his medical school experience showed the need for the current study to be completed.

Chapter 3

Methods

The purpose of this study was to investigate the relationship between the utilization of student support services and overall satisfaction in medical school. The study determined if there were any differences in utilization of support services, and overall satisfaction, by gender, race/ethnicity, and specialty choice. In addition, the study identified the most utilized support service, and explored whether academic performance was correlated with the utilization of services and overall satisfaction. The parts of this chapter include the research design, population and sample, instrumentation, collection of data, and data analysis.

Research Design

The objectives of this study were to: (a) Quantify the frequency of the medical student's use of academic and psychological support services; (b) Measure the level of overall satisfaction the student had with his medical school program; and, (c) Determine if a correlation exists between the student's utilization of services and his overall satisfaction in medical school. To support the purpose and objectives of this study, a quantitative research method was used. A correlation study was conducted using a survey method for data collection. The survey method was deemed appropriate since the goals of this method can include measuring or investigating the behaviors, opinions, and attitudes of a sample of a specific target population regarding a particular topic or issue (Dillman, Smyth, & Christian, 2014; Groves et al., 2009).

Dillman et al. (2014) assert that a tailored design approach to surveying can work to reduce the total survey error that can weaken the overall quality of a survey study. This design approach involves customizing survey procedures "based upon knowledge about the topic and sponsor of the survey, the types of people who will be asked to complete the survey, the resources available, and the time frame for reporting results" (p. 16). This study sought to adhere to these principles by:

1. Using custom-developed questionnaires which include items that reflect particular characteristics of the target population, the specific academic and psychological support services that are offered at the medical school that the participants attend, and distinct components of the curriculum in medical education.
2. Utilizing a panel of experts and cognitive interviews for review of the content of the questionnaire to ensure the validity of the nomenclature and phraseology within the instrument.
3. Distributing the survey electronically. This mode of distribution takes into account the resources that would be available to participants, allows for accommodation of the participants' varied schedules and gives participants the opportunity to complete the survey from a convenient location.
4. Launching the survey in February when there is a greater probability that participants' program schedule will be less hectic; and, their answers to the questions pertaining to the construct of overall satisfaction will not be skewed by their individual Residency Match results which they receive in March.

To achieve the stated aim and objectives of the study, the following seven research questions were explored:

1. What is the direction and strength of the relationship between students' utilization of support services and their overall satisfaction?
2. What is the difference by gender with the utilization of student support services?
3. What are the directions and magnitude of differences by race/ethnicity and specialty choice with the utilization of student support services?
4. What is the difference by gender with overall satisfaction in medical school?
5. What are the directions and magnitude of differences by race/ethnicity and specialty choice with overall satisfaction in medical school?
6. Which student support service is most utilized at each medical school?
7. What is the direction and strength of the correlation between academic performance and utilization of student support services, as well as overall satisfaction?

Population and Sample

The population under study consists of students enrolled in undergraduate medical education programs in Florida. As this study sought to explore the constructs of total utilization of support services and overall satisfaction with medical school, the sample consisted of current fourth-year medical students from two allopathic medical schools in Florida: The Florida State University College of Medicine (FSU CoM) and The University of South Florida Health Morsani College of Medicine (USF MCOM). These schools were chosen for geographical convenience, medical program

comparability, and ease of accessibility to study participants due to the researcher's prior professional association with both schools.

These two medical schools are both part of state universities. Both schools are accredited by the LCME and therefore follow the same guidelines. The two medical programs have been in existence for at least 15 years (FSU CoM, 2015, History, p.1; USF COM, College Overview, p.1) and are, therefore, well-established. A review of the content on the schools' websites indicates that the admissions process, the curriculum content, and the support services that are offered to students at both schools are comparable.

The class of 2016 at FSU CoM consisted of 122 students (www.med.fsu.edu). Sixty-four students (53%) were males and 58 (47%) were females. Though data received from the college's registrar's office could not provide exact numerical figures, the approximate percentages of the represented racial/ethnic groups were: (a) Asian = 11%; (b) Black/African American = 13%; (c) Hispanic/Latino = 11%, and (d) White/ Caucasian = 65%.

USF MCOM has two Doctor of Medicine programs: the MD Core program and the MD SELECT program. The programs vary in design and curriculum content and also have different and separate admissions processes. The specific curricular differences with the SELECT program are explained in the section that follows. However, for physical convenience and accessibility to participants, as well as medical program comparability, only the MD Core program was used for the study.

The USF MCOM MD Core program's class of 2016 consisted of 133 students (www.health.usf.edu). Seventy-three students (55%) were males and 60 (45%) were

females. The approximate percentages of the represented racial/ethnic groups were: (a) Asian = 26%; (b) Black/African American = 6%; (c) Hispanic/Latino = 13%, and (d) White/Caucasian = 55%.

A priori estimations were calculated using the G-Power 3.1 software program to determine needed sample sizes for the study, using a significance level of .05. The estimates for research questions 3 and 5 were calculated using the total number of categories on the survey for race/ethnicity, and specialty choice. The results are contained in Table 1.

Table 1

A Priori Estimations for the Study

Item	Power	Effect Size	Sample Size Needed
Multiple Regression (Q# 1)	.70	.15	81 (for each school)
ANOVA for race/ethnicity with overall satisfaction (Q# 3)	.70	.40	77 (total)
ANOVA for race/ethnicity with utilization of services (Q#3)	.70	.40	77 (total)
ANOVA for specialty choice with overall satisfaction (Q# 5)	.70	.40	104 (total)
ANOVA for specialty choice with utilization of services (Q#5)	.70	.40	104 (total)
ANOVA for academic performance and utilization of services, as well as overall satisfaction (Q# 7)	.70	.40	54 (for each school)

Note. Level of significance = .05

Final sample. Ninety-six students from USF MCOM responded to the survey, which equates to a 72% response rate. Upon review of the data set, the listwise deletion method was employed and nine respondents were removed from the data set, due to the majority of survey questions being unanswered (Cheema, 2014). Therefore, the total number of USF MCOM respondents was 87.

Seventy-seven students from FSU CoM responded to that survey, a 63% response rate. After inspecting the data set, six respondents were deleted due to partial completion of the survey; therefore, the total number of respondents for the FSU CoM data set was 71. This final number of respondents was less than the planned sample size for research question 1, in order to meet the desired power estimations of .70 and effect size of .15. The total number of participants for the overall study was 158.

Description of the participating medical schools.

FSU CoM. As stated on the FSU CoM website (www.med.fsu.edu), the College of Medicine was established in June of 2000. The college is designed as a community-based medical school where students complete their first two years of the program at the central campus in Tallahassee, Florida, and then move to one of the college's six regional campuses to complete their clerkship years (years 3 and 4). All of the regional campuses are located in towns across Florida: Tallahassee, Pensacola, Daytona, Orlando, Sarasota, and Fort Pierce. The college also has clinical training sites in the rural areas of Immokalee and Marianna, Florida, as well as in Thomasville, Georgia. The mission of FSU CoM states, "The Florida State University College of Medicine will educate and develop exemplary physicians who practice patient-centered health care, discover and advance knowledge, and are responsive to community needs, especially

through service to elder, rural, minority, and underserved populations" (FSU CoM, 2015, Mission, p.1).

Description of support services. The services offered to the FSU CoM students for academic and psychological support include: the Office of Student Counseling Services, the Office of Student Affairs, career/academic advising during years 1 and 2, career advising during years 3 and 4, the First-Year Tutoring Program, the Learning and Study Resource Site, and the Regional Student Support Coordinator. A brief description of each service is presented below.

The Office of Student Counseling Services is located directly on the FSU CoM central campus in Tallahassee. It offers free, flexible, on-site/telephone, confidential, academic and mental health counseling by a licensed psychologist, and a counselor. Some of the specific services for which the students may utilize the office include: enhancing study skills, improving exam performance, time management skills, adjustment issues, planning/organization skills, stress and general anxiety reduction, depression, and family/relationship issues. The office has no involvement in the academic evaluation or promotion of students and also provides referrals to off-site counseling services, if this is preferred and/or needed by the student (FSU CoM, 2016, Division of Student Affairs, Office of Student Counseling, p. 1).

The Office of Student Affairs is located on the FSU CoM central campus. It is led and operated by the Associate Dean of Student Affairs, the Assistant Dean of Student Affairs and their team of administrators and staff. The office oversees student support needs such as, academic/personal advising and guidance, student-life matters, financial

aid, student resources, and student organizations (FSU CoM, 2016, Division of Student Affairs, p.1).

Career/academic advising during years 1 and 2 is a process that is initiated by the Assistant Dean of Student Affairs when he assigns students, usually in groups of four, to a faculty advisor, early in their first year. Students are expected to meet with their faculty advisor at least once each semester, and up to three times over the summer. They are encouraged to meet with their advisors more often if they are experiencing academic difficulty (K. Gadson, personal communication, June 10, 2016). Faculty advisors can assist students with the transition to medical school, decision-making, medical career exploration, self-assessment, educational resources, and preparation for USMLE Step 1 exam (FSU CoM, 2016, Current Students, Student Handbook, p. 5).

Career advising during years 3 and 4 is established once students re-locate to a regional campus. Students complete an *advising program intake assessment* form; this form provides information that is used in the process of assigning the students to one of the clerkship directors who will serve as their advisor. Though the process may differ by regional campus, usually the students are assigned to an advisor by the Regional Campus Dean and the Regional Student Support Coordinator, approximately two months into year 3 (S. Stevens, personal communication, June 7, 2016). Advisors utilize the AAMC Careers in Medicine program as a primary advising resource and can assist students with decision-making, fourth-year planning, self-assessment, professional networking, preparing for USMLE Step 2 exam, professional development

resources, and letters of recommendation for residency application (FSU CoM, 2016, Current Students, Student Handbook, p. 6)

The First-Year Tutoring Program was offered through the Office of Student Counseling Services until 2015. The service was offered to students during the Spring semester of their first year of medical school. The program included four second-year medical students who were assigned to one day during the week, Monday through Thursday, to provide two hours of drop-in tutoring service (C. Porter, personal communication, June 7, 2016).

The Learning and Study Resource Site is offered through the Office of Student Counseling Services. It is available to all FSU CoM students and is accessed through the university's online learning management system. The site is an academic and well-being resource which provides information on study skills, Step 1 exam preparation, stress management strategies and the like (C. Painter, personal communication, January 7, 2016).

The Regional Student Support Coordinator (RSSC) is an established full-time position at each regional campus. The RSSC is the Division of Student Affairs representative at the regional campus and "assists the Regional Campus Dean by identifying the academic and/or personal/professional support needed by third and fourth year students with the goal of maximizing the success of each student." (FSU CoM, 2016, Division of Student Affairs, Student Support Coordinator, p. 1). The RSSC also maintains student records, assists with the residency application process, career development, personal counseling, and other student support services.

USF MCOM. USF MCOM is located in Tampa, Florida. A review of the school's website (www.health.usf.edu) revealed that the college was established in 1971. It has experienced much expansion since then and now offers doctorates in medicine (MD degree) and, through its School of Biomedical Sciences, Doctor of Philosophy degrees and Master of Science degrees. As stated above, USF MCOM has two Doctor of Medicine programs: the MD SELECT program and the MD Core program.

According to the USF MCOM website, the MD SELECT program was established in 2011. The program partners with the Lehigh Valley Health Network to provide clinical training to its students during their clerkship years; therefore, students complete their first two years of medical school in Tampa, Florida, and their third and fourth years of the program in Lehigh Valley, Pennsylvania.

As noted within the MD SELECT pages of the USF MCOM website (USF MCOM, MD Program, MD SELECT Program), the MD SELECT program has an additional curriculum design aspect which separates it from the MD Core program. This additional aspect focuses on leadership skills development. The program uses the components of emotional intelligence as the foundation for the leadership skills development training. Therefore, students gain knowledge and practice of the concepts of self-awareness, self-management, social awareness, and relationship management. As such, the MD SELECT students participate in a mandatory, four-year longitudinal course which provides focused training on leadership, as well as health systems, and values-based patient-centered care. The students in the MD SELECT program also receive academic and well-being support through a distinct aspect of its curriculum design which entails

one-on-one coaching from assigned physician faculty and peers throughout all four years of medical school.

The MD Core program follows the more traditional medical school model where students complete all four years of medical school at one location; and, affiliated teaching hospitals, and other clinical sites in the surrounding areas are used as clinical-training sites for the students. The mission of USF MCOM "is to provide for the education of students and professionals of the health and biomedical sciences through the creation of a scholarly environment that fosters excellence in the lifelong goals of education, research activity and compassionate patient care" (USF MCOM, 2015, About the College, p.1).

Description of support services. The services offered to the USF MCOM students for academic and psychological support include: the Office of Student Affairs, the Peer-Tutoring Program, the Academic Support Center, the MD Career Advising Program, Health Enhancement for Lifelong Professional Students (H.E.L.P.S.), the USF Counseling Center, and the MCOM Office of Student Diversity and Enrichment. A brief description of each service is presented below.

The Office of Student Affairs is located on the USF MCOM campus. Administrative leadership of this office changed in 2014. It is led and operated by the Associate Dean of Student Affairs and her team of administrators and staff. The office serves as students' primary point of contact for matters of concern. Students are encouraged to visit the office if they are experiencing any type of personal, academic, financial aid, or mistreatment/abuse issue. The office provides referral, advising, and

advocacy services (USF MCOM, MD Program, Student Portal, MD Student Handbook, p. 10).

The Peer-Tutoring Program was offered through the Office of Student Affairs until 2014, but is now managed by the Academic Support Center (P. O'Callaghan, personal communication, June 10, 2016). "Faculty and student tutors are selected by the Academic Support Center Director based on their academic and personal qualities." (USF MCOM, MD Program, Student Portal, MD Student Handbook, p. 60). Students experiencing academic difficulties can seek tutoring by contacting the center.

The Academic Support Center was established in July, 2014. It is located directly on the USF MCOM campus and is available to students throughout all four years of medical school. The center is directed and operated by an educational psychologist and her staff. The goal of the center is "to help students optimize their ability to achieve well in the MD curriculum and in preparation for USMLE exams." (USF MCOM, MD Programs, Current Students, See an Academic/career Advisor, p. 1). The center provides services to students seeking guidance with enhancing study skills, developing test-taking strategies, and/or academic assessment.

The MD Career Advising Program uses a four-year system of mentoring and advising in order to help prepare students to successfully match into a residency position. Students are assigned to a faculty advisor when they enter medical school. Students also select a specialty faculty advisor, at the end of their 3rd year, who can provide guidance on their chosen medical specialty. The program utilizes the AAMC Careers in Medicine system as its foundation and provides faculty advisors with information on assessing students for risk of not matching to a residency position (USF

MCOM, MD Programs, Current Students, See an Academic/career Advisor, p. 1). The students are expected to meet with their advisor at least twice a year. Administrative leadership of this program changed in 2014 (S. Specter, personal communication, June 7, 2016).

The H.E.L.P.S. program was established by USF MCOM through the assistance of a private organization. It is located in Tampa, FL, outside of the USF campus. It is an assessment, support, and referral program for academic, financial, psychological, and legal concerns. It also offers academic, career, and professional development services. Services are offered to students, their significant other, and their dependents. The first three visits are free, but subsequent visits require coverage from the students' insurance plan (USF MCOM, Current Students, Student Portal, Student Handbook, p. 60).

The USF Counseling Center is located on USF's main campus in Tampa, FL. The center provides free, confidential, diversity-oriented, psychological services to all current USF students. It offers students "the opportunity to learn how to resolve problems, practice new skills, and utilize insights and perspectives to enhance mental wellness and be academically successful." Students seeking assistance can schedule an appointment with one of several licensed psychologists and mental health counselors on staff, or stop by the center Monday through Friday, between 8 a.m. and 5 p.m. (USF, 2016, Counseling Center, What we do, p.1).

The MCOM Office of Student Diversity and Enrichment is located directly on the MCOM campus. According to the USF MCOM website (USF MCOM, 2015, Student Diversity and Enrichment, p. 1), the office's definition of diversity includes race/ethnicity,

"talents, life-skills, and special attributes." (p. 1). The focus of the office is to ensure that "all students feel supported and accepted in order to optimize their educational experience." One of the goals of the program is to "retain admitted minority and disadvantaged medical students through the provision of support services." (p.1).

Instrumentation

The Graduation Questionnaire, which is administered by the AAMC to medical students, is used as a measure of student satisfaction with a medical school program. A copy of this questionnaire was obtained from the AAMC by the researcher. Review of the instrument revealed that there are over 100 questions with many items pertaining to detailed aspects of the four-year medical education curriculum. This questionnaire opens each year from February to June for fourth-year medical students to complete. Since two of the goals that this researcher had for her survey study were a survey completion time of no more than 10 minutes (Yan, Conrad, Tourangeau & Couper, 2010), and a survey distribution timeline of February, 2016, it was determined that the Graduation Questionnaire would not be an appropriate instrument to use for this study.

As an appropriate existing instrument could not be found, a three-part questionnaire was created by the researcher in order to obtain data needed to answer the study's research questions.

Development process. The questionnaire items were developed based on the review of the literature used for Chapter 2, as well as the researcher's professional experience in the medical education field. The AAMC Graduation Questionnaire was also used as a guide when developing the items for this survey study, particularly for the

substantial areas of a medical school program which would warrant student evaluation and satisfaction ratings.

The survey was created to consist of three sections: 1. Background Information, 2. Utilization of Services, and 3. Overall Satisfaction. Separate surveys were created for each medical school in order to list, by name/title, in section 2, the specific support services that were offered in each school.

In the initial survey, section 1 included demographic questions regarding gender, race/ethnicity, marital status, children living in the home, residential status, intended specialty, and USMLE Step 1 and 2 exam scores (standardized national licensing exams), as a measure of academic performance.

Section 2 asked participants to indicate, from five set choices (*More than 6 times*, *4 to 6 times*, *1 to 3 times*, *Never*, and *Not aware of service*), how often they utilized specific support services offered at their respective schools. Personnel from the Office of Student Affairs at each medical school were contacted for verification of the academic and psychological support services offered at their respective schools. To further ensure that the services would be recognized by students, the names of the primary personnel associated with those services were added within the appropriate questions. Appendix A contains a copy of the email correspondence with these individuals granting permission to list their names within the survey.

Section 3 of the survey asked participants to rate the extent to which their medical school program had met their expectations in two categories (*academic experience* and *student life experience*) using a 5-point rating scale ranging from *much better than I expected* to *much worse than I expected.* The section then asked

participants to rate their overall satisfaction with various components of their medical school experience using a 7-point rating scale ranging from *very satisfied* to *very dissatisfied*.

The initial questionnaires were reviewed by the researcher's major professor and committee members and all suggested revisions were made. The revisions involved additions to Section 1 and included: (a) a question for participants to indicate their age, (b) the inclusion of *prefer not to answer* as an option on all demographic questions, except for the two related to academic performance, and (c) the inclusion of *married and living in separate households* to the question regarding marital status.

Expert panel review*.* Content validity relates to "the degree to which a sample of items, taken together, constitute an adequate operational definition of a construct." (Polit & Beck, 2006, p. 490). To further ensure content validity, a panel of experts, consisting of individuals from the two medical schools used in the study, was then used for review of the questionnaires. It was determined that the expert panel should consist of individuals from the fields of research and measurement, higher education, student affairs in medical education, and medical education. Seven individuals were identified by the researcher and her major professor as potential panel experts. The researcher personally contacted each expert to discuss the possibility of serving on the panel and followed this with an email that gave further details about the study. See Appendix B for a copy of the invitation email to the expert panel.

Six of the seven individuals who were sent the invitation were able to serve as panel experts. Since some individuals had expertise in more than one of the identified appropriate areas, the panel consisted of two experts in research and measurement,

three experts in student affairs in medical education, two experts in higher education, and five experts in medical education. See Appendix C for the list of expert panel members.

All members of the expert panel were asked to review each item on the questionnaire and rate it for relevance, clarity, and comprehensiveness, using a scale of 1 to 5, where 1 was the lowest rating and 5 was the highest (Polit & Beck, 2006). They were also asked to state any additional question items that might be relevant for the particular sections of the questionnaire (Rutherford-Hemming, 2015). The researcher emailed each expert specific instructions for the content review, along with the rater sheet and a copy of the questionnaire. See Appendix D for a copy of the instruction email to the expert panel. Appendix E contains a copy of the rater sheet.

Individual item ratings from the review of the questionnaire by all panel experts were aggregated. All items were rated as relevant (a rating of 4 or 5) except for the two questions pertaining to the participant's score on the USMLE Step 1 and 2 exams, as a measure of academic performance. Panel experts, as well as members of the researcher's committee, believed that the score on this standardized national licensing exam would not necessarily provide an accurate indication of participants' overall academic performance in medical school, but might possibly be more a measure of the participant's test-taking skills and aptitude. Consequently, these two items were revised.

One demographic question regarding the presence of children in the participant's primary residence received a low total rating (<4) for relevance, clarity and comprehensiveness; therefore, the question was revised based on the suggestions from

the panel experts. The mean content validity ratings for each questionnaire item is contained in Appendix F. All additional suggestions by the panel experts were reviewed by the researcher and her major professor and incorporated into the questionnaire accordingly. See Appendix G for a copy of the revisions to the questionnaire after the expert panel review.

Pilot tests. Once the revisions were made to the questionnaires, pilot tests were conducted to test the comprehensiveness, completion time, and user-friendliness of each online survey. The researcher contacted faculty and staff from each of the medical schools to ask for assistance in recruiting a small sample of third-year medical students to participate in the pilot tests. Using third-year medical students ensured that all survey questions would be relevant to the participants, and that all members of the target population (fourth-year students at each medical school) would have the opportunity to be included in the study sample.

The pilot tests for the USF MCOM survey were conducted on January 5th, 7th and 8th with a total of five third-year students. The pilot test for the FSU CoM survey was conducted on January 6th with a total of six third-year students. Cognitive interviews were executed while the participants were completing the survey, using the think-aloud and verbal probing methods, and served to provide further information on the content validity of the items on the survey (Willis, 2004).

The pilot tests revealed the average completion time for each survey was approximately six minutes. None of the participants reported any difficulty with navigating the online survey. The cognitive interviews revealed some ambiguity with

certain questions and resulted in minor revisions to both surveys. The revisions are summarized here:

1. FSU CoM students felt uncertain about their answers to several of the questions in Section 3 (Overall Satisfaction), as well as two questions in Section 2 (Utilization of Services). This was due to the fact that the questions required them to rate their experience at the central and regional campus collectively. Two USF MCOM students also noted some uncertainty about their answers to a few of the same questions due to changes in administrative leadership at the medical school between their pre-clerkship and clerkship years. As such, these questions were divided by pre-clerkship (years 1 and 2) and clerkship (years 3 and 4) years in each survey.
2. More than one student was unclear about the terms *campus climate*, *student-life*, and *capstone.* Consequently, definitions for these terms were added within the respective questions.

Appendix H contains a copy of the revisions to the surveys after the pilot tests.

Survey reliability. To establish the reliability of each survey instrument, the test-retest method was used. To execute this process, a small sample of third-year students from each medical school was recruited to complete the survey twice. The second administration of the survey was completed five days after the first administration. The time between survey administrations was deemed appropriate since it reduced the probability that the students might need to utilize support services listed on the surveys, thereby changing a trait that was being measured.

An analysis of the data from both survey administrations, for each survey, was conducted to calculate the correlation coefficient for each item on the surveys. The recommended reliability coefficient for instrument development is .80 (Polit, 2014). The results for the USF MCOM survey revealed a reliability coefficient greater than .80 for every survey item except one. See Appendix I for a copy of the estimated reliability coefficients for each USF MCOM survey item. The FSU CoM survey items also produced reliability correlation coefficients greater than .80 for all survey items except one. See Appendix J for a copy of the estimated reliability coefficients for each FSU CoM survey item.

One question in section 3 (Overall Satisfaction), *the opportunity to complete a Capstone experience/project* resulted in a low test-retest reliability coefficient (r = .60) within the USF MCOM results. After receiving feedback from one student who participated in the test-retest, it was determined that the low score was due to the fact that a capstone course is offered at USF MCOM to fourth year students, so the student, who is in her third year, was not sure, during the retest, if the question applied to her. Since only fourth year students were going to be used for the final study, the question was not eliminated from the survey. However, the word *option* was added to the question in order to improve comprehensiveness and clarity.

The FSU CoM retest also resulted with a low test-retest reliability coefficient (r = .50) for one question in section 3. The question pertained to the students' overall satisfaction with their relationships and interactions with their clerkship faculty during years 3 & 4. Feedback from two students led to the conclusion that this too was a result of using third-year students for the test-retest. Since third-year students would not have

yet completed all of their required clerkships, the probability that they would experience much variability with their clerkship rotations each week is greater. As such, the question remained a part of the final survey, but the term *on average* was added to the question to increase clarity. See Appendix K for a copy of the final USF MCOM survey. Appendix L contains a copy of the final FSU CoM survey.

Field test. A field test of the final survey was conducted using the fourth-year students from the USF MCOM SELECT program. The link to the USF MCOM survey was emailed to the students, along with an explanation of the study and the purpose of the field test. Students were asked to contact the researcher via email, if they wished to provide any suggestions or comments. The survey was sent to the students, with the assistance of a colleague at the USF Lehigh Valley branch campus, on January 28th, 2016 and remained open until February 1st, 2016. There was a 57% (*n* = 24) response rate to the survey. No changes to the survey were necessary after the field test.

Collection of Data

The Deans of Student Affairs at FSU CoM and USF MCOM were contacted about the purpose of the intended research study and permission was given to survey the fourth-year students, pending approval from the USF Institutional Review Board and the FSU CoM Research Advisory Committee and FSU Institutional Review Board. Appendix M includes a copy of the Letter of Support from the Associate Dean of Student Affairs at FSU CoM. Official approval from the Associate Dean of Student Affairs at USF COM was given through the USF Institutional Review Board process for the approval of the research study.

All program procedures for each school were followed in order to administer the instrument to students in February. The month of February was chosen in order to facilitate high probability of participation. February is usually a month in the general fourth-year schedule where students are on or close to campus and have more available time. February was also chosen to help ensure that the students' responses to the questions regarding overall satisfaction were not skewed by their individual outcome in the residency match in March.

The study was approved by the USF Institutional Review Board on December 23rd, 2016. See Appendix N for a copy of the approval letter from the USF Institutional Review Board. Through the help of the Assistant Dean of Student Affairs at FSU CoM, the proposal for the study was submitted to the FSU CoM Research Advisory Committee, and later approved on January 29th, 2016. See Appendix O for a copy of the letter from FSU CoM Research Advisory Committee. Official approval of the study from the FSU Institutional Review Board was received on February 22nd, 2016. Appendix P contains a copy of the approval letter from the FSU Institutional Review Board.

The online survey was created using the Qualtrics survey software program. This software program was chosen to minimize research costs, since access to the software is provided through an institutional agreement with the University of South Florida.

Student affairs personnel from each school, who were personally known to the researcher, were asked to forward a recruitment email to the fourth-year students at their respective medical schools. The email included an introduction to the investigator,

an explanation of the purpose of the study, information about the chance to win a $50 Visa gift card upon completion of the survey, and the link to the online survey.

Once participants clicked on the survey link within the recruitment email, they viewed an informed consent which gave them the option to continue to the survey questions or to not participate in the study. Those students who chose to not participate in the study were taken to an end of survey screen which thanked them for their time. See Appendix Q for a copy of the non-participant thank you screen.

If a student chose to participate in the study, after reading the informed consent, he was taken to the survey questions. Directions for completing the survey questions were included within each section. To maintain confidentiality and anonymity, no identifying information was collected. After completing the survey, participants had the option to submit an email address for a chance to win a $50 Visa gift card. The submission of an email address was not linked to their responses to the survey. In order to keep submissions separate by medical school, different email accounts were used for submissions from each school. The participant end of survey screen can be found within the copy of each survey in Appendices K and L.

USF MCOM survey. The USF MCOM survey was launched on February 3rd, 2016. Appendix R contains a copy of the initial email that was sent to the students.

To help facilitate a high response rate, additional solicitation emails were sent out with the survey link on February 9th, February 23rd, and March 8th, 2016. See Appendix S for a copy of the reminder email that was sent to the students. The USF MCOM survey was closed on March 13th, 2016, the day before the start of *match week* when

the students received notification of whether or not they matched into a residency program of their choice, and if so, into which program they matched.

FSU CoM survey. The FSU CoM survey was launched as soon as the approval for the study was received from the FSU Institutional Review Board on February 22nd, 2016. See Appendix T for a copy of the initial email that was sent to the students. Since the data collection period with this survey was less than the anticipated four weeks, the researcher asked the Student Affairs personnel at the regional campuses to forward the initial solicitation email to their respective group of fourth-year students, encouraging them to complete the survey. To further facilitate a high response rate, reminder emails were sent on March 2nd and 8th, 2016 from the central campus, to the entire class. See Appendix U for a copy of the reminder email that was sent to the students. The FSU CoM survey was also closed on March 13th, 2016.

Data Analysis

Two separate surveys were used to conduct this study in order to measure the utilization of the specific support services offered at each medical school. As such, data were analyzed per medical school and also as a combined set in order to answer the seven research questions.

Descriptive statistics, including means and frequency distributions were used to analyze the data, through the Statistical Package for the Social Sciences (SPSS) software program, for the demographic data from Section 1 of the surveys, and research questions 2 through 6.

A multiple regression analysis was conducted for research question 1 with overall satisfaction as the outcome variable and the utilization of each support service as the

predictor variables. The variables in research question 1 are continuous variables; therefore, the Pearson product-moment correlation coefficient (PPMC) test was used to determine the direction and strength of the relationship between the utilization of each student support service and overall satisfaction at each medical school. It was hypothesized that overall satisfaction would increase as the utilization of student support services increased.

T tests were computed to determine any differences by gender for utilization of student support services, as well as with overall satisfaction in medical school, for research questions 2 and 4.

An analysis of variance was computed for research questions 3 and 5 to determine any differences by race/ethnicity and specialty choice with overall satisfaction in medical school, as well as, the utilization of student support services. A repeated-measures analysis of variance was computed for research question 6 to determine which student support service was most utilized at each medical school. A pairwise comparison analysis was conducted to determine the statistical significance of the differences in utilization means between the support services.

Analyses of variance were conducted for research question 7 to determine whether academic performance was correlated with utilization of support services and overall satisfaction. It was hypothesized that utilization of support services would increase as academic performance decreased.

Chapter 4

Findings

The purpose of this study was to investigate the relationship between the utilization of student support services and overall satisfaction in medical school. The study determined if there were any differences in utilization of support services, and overall satisfaction, by gender, race/ethnicity, and specialty choice. In addition, the study identified the most utilized support service, and explored whether academic performance was correlated with the utilization of services and overall satisfaction.

The parts of this chapter include demographic characteristics of the sample, descriptive statistics of utilization of student support services, descriptive statistics of overall satisfaction in medical school, research questions findings, and observations.

Demographic Characteristics of the Sample

The sample for this study was derived from the fourth-year classes (class of 2016) at two allopathic medical schools in Florida: University of South Florida Morsani College of Medicine, and Florida State University College of Medicine. Separate surveys were created for each school and were launched on different dates in the month of February.

For the purposes of this study, only the fourth-year students from the USF MCOM MD Core program were used; those in the MD SELECT program were not included. The MD Core program class of students consisted of 133 individuals. The class of 2016 at FSU CoM consisted of a total of 122 students.

Over the course of 5½ weeks, the USF MCOM survey yielded a response rate of 72% (*n* = 96). Further inspection of the data resulted in the removal of nine respondents due to partial completion, leaving a data set of 87 respondents. After being open for a period of almost three weeks, the FSU CoM survey achieved a response rate of 63% (*n* = 77). The final data set, however, consisted of 71 respondents, after the deletion of six respondents who had incomplete survey responses. The overall study yielded a final data set of 158 respondents.

The data for the demographic characteristics of the respondents for the overall study, the FSU CoM respondents, and the USF MCOM respondents are presented in Table 2. The information is summarized here.

Overall study. A total of 158 students participated in the overall study; 50% of the respondents were females (*n* = 79) and 50% were males (*n* = 79). Five students (3%) preferred not to report their age. Out of the remaining respondents (*n* = 153), the majority (47%) of the students were between the ages of 24-26 years (*n* = 75), 39% were between the ages of 27-29 years (*n* = 62), and 10% were between the ages of 30-35 years (*n* = 16).

Seven respondents (4%) chose to not report their race/ethnicity. Of the remaining 151 respondents in that data set, the majority (59%) of the students were White/Caucasian (*n* = 93), 15% were Asian (*n* = 24), 11% were Black/African American (*n* = 17), 9% were Hispanic/Latino(a) (*n* = 14), 1% reported as Multiracial (*n* = 2), and 1% (*n* = 1) was Native American.

Table 2

Demographic Characteristics of Study Respondents

Characteristics	Frequency			%		
	Overall Study	USF MCOM	FSU CoM	Overall Study	USF MCOM	FSU CoM
Gender						
Female	79	43	36	50.00	49.40	50.70
Male	79	44	35	50.00	50.60	49.30
Total	158	87	71	100.00	100.00	100.00
Age						
24	6	6	0	3.80	6.90	0.00
25	34	21	13	21.50	24.10	18.30
26	35	18	17	22.20	20.70	23.90
27	28	15	13	17.70	17.20	18.30
28	20	10	10	12.70	11.50	14.10
29	14	7	7	8.90	8.00	9.90
30	8	2	6	5.10	2.30	8.50
31	0	0	0	0.00	0.00	0.00
32	1	1	0	0.60	1.10	0.00
33	3	2	1	1.90	2.30	1.40
34	2	0	2	1.30	0.00	2.80
35	2	1	1	1.30	1.10	1.40
Prefer not to answer	5	4	1	3.20	4.60	1.40
Total	158	87	71	100.00	100.00	100.00
Race/Ethnicity						
Asian	24	21	3	15.20	24.10	4.20
Black/African American	17	5	12	10.80	5.70	16.90
Hispanic/Latino(a)	14	5	9	8.90	5.70	12.70
Multiracial	2	1	1	1.30	1.10	1.40
Native American	1	1	0	0.60	1.10	0.00
Native Hawaiian/P.I.	0	0	0	0.00	0.00	0.00
White/Caucasian	93	48	45	58.90	55.20	63.40
Prefer not to answer	7	6	1	4.40	6.90	1.40
Total	158	87	71	100.00	100.00	100.00
Marital Status						
Single/Never Married	96	56	40	60.80	64.40	56.30
Married - Same House	41	21	20	25.90	24.10	28.20
Married – Sep. House	6	2	4	3.80	2.30	5.60
Partnered/Cohabitating	13	6	7	8.20	6.90	9.90
Prefer not to answer	2	2	0	1.30	2.30	0.00
Total	158	87	71	100.00	100.00	100.00
Parent – Primary Res.						
Yes	18	10	8	11.40	11.50	11.30
No	140	77	63	88.60	88.50	88.70
Prefer not to answer	0	0	0	0.00	0.00	0.00
Total	158	87	71	100.00	100.00	100.00
Parent – Sep. House						
Yes	2	2	0	1.30	2.30	0.00
No	155	85	70	98.10	97.70	98.60
Prefer not to answer	1	0	1	0.60	0.00	1.40
Total	158	87	71	100.00	100.00	100.00

Table 2 Continued

Characteristics	Frequency			%		
	Overall Study	USF MCOM	FSU CoM	Overall Study	USF MCOM	FSU CoM
Residential Status						
Lived in FL < 5 yrs.	8	7	1	5.10	8.00	1.40
Lived in FL 5-10 yrs.	16	12	4	10.10	13.80	5.60
Lived in FL 10-15 yrs.	10	5	5	6.30	5.70	7.00
Lived in FL > 15 yrs.	123	62	61	77.80	71.30	85.90
Prefer not to answer	1	1	0	0.60	1.10	0.00
Total	158	87	71	100.00	100.00	100.00
Intended Specialty						
Primary Care	84	43	41	53.20	49.40	57.70
Anesthesiology	3	0	3	1.90	0.00	4.20
Dermatology	3	1	2	1.90	1.10	2.80
Emergency Medicine	10	5	5	6.30	5.70	7.00
Neurology	2	0	2	1.30	0.00	2.80
Ophthalmology	3	1	2	1.90	1.10	2.80
Pathology	1	1	0	0.60	1.10	0.00
Physical Med. & Reh.	2	2	0	1.30	2.30	0.00
Psychiatry	6	3	3	3.80	3.40	4.20
Radiology	11	9	2	7.00	10.30	2.80
Surgery	21	14	7	13.30	16.10	9.90
Urology	3	2	1	1.90	2.30	1.40
Other	1	1	0	0.60	1.10	0.00
Prefer not to answer	8	5	3	5.10	5.70	4.20
Total	158	87	71	100.00	100.00	100.00
Acad. Diff. – Yrs. 1 & 2						
Yes	21	13	8	13.30	14.90	11.30
No	137	74	63	86.70	85.10	88.70
Total	158	87	71	100.00	100.00	100.00
Acad. Diff. – Yrs. 3 & 4						
Yes	19	7	12	12.00	8.00	16.90
No	139	80	59	88.00	92.00	83.10
Total	158	87	71	100.00	100.00	100.00

Note. N = 158. P.I. = Pacific Islander; Sep. House = Separate Household; Primary Res. = Primary Residence; Physical Med. & Reh. = Physical Medicine and Rehabilitation; Acad. Diff. = Academic Difficulty.

In terms of marital status, most (61%) of the students were single/never married (*n* = 96). Of those students who stated they were married (30%), 41 were living in the same household as their spouse, while 6 were living in a separate residence. The remaining students (8%) in the data set reported that they were partnered/cohabitating

(*n* = 13). The majority (89%) of the respondents indicated that they were not the parent of a child(ren) living in their household (*n* = 140). Therefore, 11% were the parent of at least one child living in their household (*n* = 18). Two students (1%) stated that they were the parent of a child(ren) living in a separate household.

Respondents were also asked about their residential status. The data revealed that 78% had lived in Florida for over 15 years (*n* = 123), 6% had lived in Florida for 11-15 years (*n* = 10), 10% had been Florida residents for 5-10 years (*n* = 16), and 5% had been in Florida for less than five years (*n* = 8).

Eight respondents (5%) preferred to not indicate their specialty/area of practice that they chose for their medical career. Out of the remaining 150 students within this data set, 53% reported Primary Care as their specialty choice (*n* = 84), 13% chose Surgery (*n* = 21), 7% chose Radiology (*n* = 11), 6% chose Emergency Medicine (*n* = 10), 4% chose Psychiatry (*n* = 6), 1% chose Neurology (*n* = 2), and another 1% chose Physical Medicine and Rehabilitation (*n* = 2). For Anesthesiology, Dermatology, Ophthalmology, and Urology, the reported number of students for each specialty was 2% (*n* = 3).

As a measure of academic performance, respondents were asked to indicate whether they experienced academic difficulty during their pre-clerkship years and/or their clerkship years. The data revealed that 87% did not experience any academic difficulty during Years 1 and 2 (*n* = 137), while 13% experienced difficulty which resulted in at least one of the following: retaking an exam, remediating a course, or repeating a year (*n* = 21). In Years 3 and 4, 88% reported that they did not experience any academic difficulty (*n* = 139), while 12% stated they experienced difficulty which

resulted in one or more of the following: retaking an exam, repeating a clerkship, or repeating a year (*n* = 19).

USF MCOM respondents. The USF MCOM data set consisted of 87 respondents. Out of this total number, 49% were females (*n* = 43) and 51% were males (*n* = 44). Four students (5%) preferred to not report their age. Out of the remaining 83 students, the majority (51%) were between the ages of 24-26 years (*n* = 45), 37% were between 27-29 years (*n* = 32), 7% were between 30-35 years old (*n* = 6). The racial/ethnic distribution of the group of respondents was 24% Asian (*n* = 21), 6% Black/African American (*n* = 5), 6% Hispanic/Latino(a) (*n* = 5), 1% Multiracial (*n* = 1), 1% Native American (*n* = 1), and 52% White/Caucasian (*n* = 45). Six students (7%) chose to not indicate their race/ethnicity.

In terms of marital status, two students (2%) preferred not to answer the question, 65% were single/never married (*n* = 56), 24% were married and living in the same household as their spouse (*n* = 21), 2% were married but living in a separate household than their spouse (*n* = 2), and 7% reported that they were partnered/ cohabitating (*n* = 6). Out of the 87 respondents, 11% indicated that they were the parent of a child(ren) living in their household (*n* = 10), and 2% reported that they are the parent of a child(ren) living in a separate household (*n* = 2).

The majority (71%) of the respondents from USF MCOM stated that they had been residents of Florida for over 15 years (*n* = 62), 6% lived in Florida between 11-15 years (*n* = 5), 14% lived in Florida between 5-10 years (*n* = 12), 8% had been residents of Florida for less than five years (*n* = 7), and one student (1%) chose to not report his residential status. Five students (6%) preferred not to reveal their specialty choice. Out

of the remaining 82 students, the distribution for specialty choice was as follows: 49% Primary Care (*n* = 43), 1% Dermatology (*n* = 1), 6% Emergency Medicine (*n* = 5), 1% Ophthalmology (*n* = 1), 1% Pathology (*n* = 1), 3% Psychiatry (*n* = 3), 10% Radiology (*n* = 9), 16% Surgery (*n* = 14), 2% Urology (*n* = 2), and 1% Other (*n* = 1).

Lastly, the data regarding academic performance revealed that 15% of the students experienced academic difficulty during Years 1 and 2 (*n* = 13); therefore, 85% did not experience any academic difficulty during their pre-clerkship years (*n* = 74). In Years 3 and 4, the amount of students who experienced academic difficulty decreased to 8% (*n* = 7), so, 92% did not experience academic difficulty during their clinical years (*n* = 80).

FSU CoM respondents. The total number of respondents in the FSU CoM survey data set was 71. Of this total, 51% were females (*n* = 36), and 49% were males (*n* = 35). The majority (61%) of the respondents were between the ages of 25-27 years (*n* = 43), 32% were between 28-30 years (*n* = 23), 6% were between 33-35 years old (*n* = 4), and 1% preferred to not indicate his age (*n* = 1). The racial/ethnic categorization of the group was 4% Asian (*n* = 3), 17% Black/African American (*n* = 12), 13% Hispanic/Latino(a) (*n* = 9), 1% Multiracial (*n* = 1), and 63% White/Caucasian (*n* = 45). One student (1%) preferred to not answer the question.

In terms of marital status, 56%were single/never married (*n* = 40), 28% were married and living in the same household as their spouse (*n* = 20), 6% were married but living in a separate household than their spouse (*n* = 4), and 10% reported that they were partnered/cohabitating (*n* = 7). Out of the 71 respondents, 11% indicated that they were the parent of a child(ren) living in their household (*n* = 8).

Most (86%) of the respondents from FSU CoM had been residents of Florida for over 15 years (*n* = 61), 7% lived in Florida between 11-15 years (*n* = 5), 6% lived in Florida between 5-10 years (*n* = 4), and 1% had been a resident of Florida for less than five years (*n* = 1). Three students (4%) preferred not to reveal their specialty choice. Out of the remaining 68 students, the distribution for specialty choice was as follows: 58% Primary Care (*n* = 41), 4% Anesthesiology (*n* = 3), 3% Dermatology (*n* = 2), 7% Emergency Medicine (*n* = 5), 3% Neurology (*n* = 2), 3% Ophthalmology (*n* = 2), 4% Psychiatry (*n* = 3), 3% Radiology (*n* = 2), 10% Surgery (*n* = 7), and 1% Urology (*n* = 1).

Lastly, the questions regarding academic performance revealed that 11% of the students experienced academic difficulty during Years 1 and 2 (*n* = 8); therefore, 89% did not experience any academic difficulty during their pre-clerkship years (*n* = 63). In their clinical years, the amount of students who experienced academic difficulty increased to 17% (*n* = 12), while 83% did not experience any academic difficulty during Years 3 and 4 (*n* = 59).

Descriptive Statistics for Utilization of Student Support Services

Students were asked to indicate the extent of their utilization of seven specific services offered for academic and/or well-being support from five set choices (*More than 6 times*, *4 to 6 times*, *1 to 3 times*, *Never*, and *Not aware of service*). They were also asked if they utilized any other services offered at the medical school and/or the university. A total utilization score was calculated using four levels. After combining the levels *never* and *not aware of service* into one category, the subsequent levels were coded as: 4 (More than 6 times), 3 (4 to 6 times), 2 (1 to 3 times), and 1 (never).

Therefore, the highest possible total utilization score was 36 (9 questions x 4), and the lowest possible score was 9 (9 questions x 1).

Cronbach's alpha reliability coefficient was calculated for the total utilization score for each medical school. According to Huck (2000), this coefficient is a lower-bound measure of the internal consistency of a set of test items. It indicates the degree to which the same construct is being measured, using a value between 0.00 and +1.00. The measure is "considered to be better to the extent that the resulting coefficient is close to the upper limit of this continuum of possible results." (p. 89). Cronbach's alpha reliability coefficient for the total utilization score was .50 for USF MCOM, and .69 for FSU CoM.

USF MCOM. The mean for total utilization of services for the USF MCOM students was 12.9, *SD* = 2.65. Skewness (0.73) and kurtosis (-0.253) indicate an approximately normal distribution of utilization scores for the sample. The maximum score for total utilization was 20 while the minimum score was 9. The other services at the University of South Florida main campus which students utilized were the Office of Veteran's Success, the Student Health Services Clinic, and the university gym. Other services at the USF MCOM campus which students stated they utilized for academic and/or well-being support included: specialty faculty and the campus gym. Table 3 contains the descriptive statistics for utilization of the USF MCOM services.

FSU CoM. The mean for total utilization of services for the FSU CoM students was 16.2, *SD* = 4.73. Skewness (1.06) and kurtosis (1.78) indicate that the distribution of scores was positively skewed with outliers creating higher peakedness than the ideal normal distribution. The maximum score for total utilization was 33 and the minimum

score was 9. The other services which students stated they utilized at the FSU and/or FSU CoM central campus included: non-assigned faculty and the campus gym. At their regional campuses, the other services which were utilized for academic and/or well-being support were alumni, faculty preceptors, and the Regional Campus Dean. Table 4 presents the descriptive statistics for utilization of the FSU CoM services.

Descriptive Statistics for Overall Satisfaction in Medical School

Overall satisfaction was analyzed using a total score for all the questions in section 3 of the surveys. The section started with four questions that asked the students to rate the extent to which their medical school met their expectations for academic experience, and student-life experience.

Table 3

Descriptive Statistics for the Utilization of USF MCOM Services

	>6 times		4-6 times		1-3 times		Never		Not Aware	
Support Service	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
MCOM Office of Student Affairs	18	20.70	15	17.20	32	36.80	21	24.10	1	1.15
Peer Tutoring Program	2	2.30	2	2.30	5	5.75	72	82.80	6	6.90
Academic Support Center	1	1.15	3	3.45	23	26.40	53	60.90	7	8.05
MCOM Career Advising program	3	3.45	14	16.10	44	50.60	20	23.00	6	6.90
H.E.L.P.S.	1	1.15	2	2.30	10	11.50	69	79.30	5	5.75
USF Counseling Center	2	2.30	1	1.15	6	6.90	72	82.80	6	6.90
MCOM Office of Student Diversity & Enrichment	5	5.75	5	5.75	15	17.20	57	65.50	5	5.75
Other service at USF main campus	3	3.45	1	1.15	5	5.75	64	73.60	14	16.10
Other service at MCOM campus	2	2.30	1	1.15	1	1.15	69	79.30	14	16.10

Note. n = 87; Freq = Frequency

The five-point rating scale for those questions was: 5 = *Much better than I expected*; 4 = *Better than I expected*; 3 = *About what I expected*; 2 = *Worse than I expected*; 1 = *Much worse than I expected*.

The section ended with the questions: *If you had to do it over, would you choose the same medical school?* and *If you had to do it over, would you still choose to enter medical school?* The five-point rating scale for these two questions was: 5 = *Definitely yes*; 4 = *Probably yes*; 3 = *I am not sure*; 2 = *Probably no*; 1 = *Definitely no*.

Table 4

Descriptive Statistics for Utilization of FSU CoM Services

	>6 times		4-6 times		1-3 times		Never		Not Aware	
Support Service	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Office of Student Counseling Services	24	33.80	9	12.70	20	28.20	18	25.40	0	0.00
Office of Student Affairs	8	11.30	4	5.63	24	33.80	28	39.40	7	9.86
Career/Academic Advising – 1 & 2	3	4.23	6	8.45	41	57.80	19	26.80	2	2.82
Career Advising – 3 & 4	11	15.50	6	8.45	26	36.60	24	33.80	4	5.63
First-Year Tutoring Program	1	1.41	2	2.82	2	2.82	38	53.50	28	39.40
Learning & Study Resource Site	6	8.45	2	2.82	30	42.30	22	31.00	11	15.50
Regional Student Support Coordinator	28	39.40	7	9.86	13	18.30	20	28.20	3	4.23
Other Service at FSU / FSU CoM Central Campus	6	8.45	4	5.63	1	1.41	46	64.80	14	19.70
Other Service at Regional Campus	4	5.63	1	1.41	4	5.63	45	63.40	17	23.90

Note. n = 71; Freq = Frequency

The other 23 questions in the section asked students to rate their level of satisfaction using the seven-point scale: 7 = *Very Satisfied*; 6 = *Satisfied*; 5 = *Somewhat Satisfied*; 4 = *Neutra*l; 3 = *Somewhat Dissatisfied*; 2 = *Dissatisfied*; and 1 = *Very Dissatisfied*. Therefore, the highest possible score for total overall satisfaction was 191 (20 + 161 + 10), and the lowest possible score was 29 (4 + 23 + 2). Cronbach's alpha reliability coefficient was calculated for the total overall satisfaction score for each medical school data set, as well as for the overall study. The reliability coefficient analyses resulted in high reliability scores for all three data sets: USF MCOM = .94, FSU CoM = .93, Overall Study = .93.

USF MCOM respondents. The mean total satisfaction score for the USF MCOM sample was 149.1, *SD* = 21.2. The scores were approximately normally distributed with minimal skew (-0.457) and kurtosis (-0.046). The minimum score for total satisfaction among the USF MCOM respondents was 97, while the maximum score was 191.

Results indicated that the areas with a lower average satisfaction rating dealt with the quality and organization of the pre-clerkship courses, and the quality of the academic advising and guidance received at the medical school. The level of satisfaction for those questions fell between *neutral* and *somewhat satisfied*.

The average satisfaction ratings for the remaining questions using the 7-point scale fell between *somewhat satisfied* and *satisfied*. Of these remaining questions, the highest satisfaction mean pertained to relationships and interactions with staff in the clerkship years, and with their medical school peers.

To the questions pertaining to whether they would still choose to enter medical

school, and still choose to attend USF MCOM, the mean response among the students fell between *probably yes* and *definitely yes*. The means and standard deviations for each question regarding overall satisfaction with the medical school experience at USF MCOM is presented in Table 5.

Table 5

Descriptive Statistics for Overall Satisfaction at USF MCOM

	M Years		*SD* Years			
Survey Item	1 & 2	3 & 4	1 & 2	3 & 4	Min.	Max.
Academic experience	3.15	3.61	0.99	0.96	1.00	5.00
Student-life experience	3.44	3.53	1.03	0.90	1.00	5.00
Work-life balance	5.44	5.38	1.41	1.19	2.00	7.00
Relationships and interactions with staff	5.74	5.91	0.96	1.07	3.00	7.00
Presence, accessibility, availability of Course / Clerkship Directors	5.72	5.79	1.04	1.09	2.00	7.00
Presence, accessibility, availability of Senior Administrators (Deans)	5.34	5.25	1.33	1.35	1.00	7.00
Relationships and interactions with course faculty and clinical experience preceptors	5.44		1.27		1.00	7.00
Quality and organization of pre-clerkship courses	4.72		1.52		1.00	7.00
Relationships and interactions with clerkship faculty (preceptors)		5.79		1.19	3.00	7.00
Quality and organization of your clerkships		5.64		1.13	2.00	7.00
Opportunity to provide feedback and input on curriculum content and instruction		5.43		1.36	1.00	7.00
Quality of the academic advising and guidance you received at your medical school		4.66		1.80	1.00	7.00
Relationships and interactions with your peers in medical school		5.89		1.36	1.00	7.00
Opportunity to attend school-sponsored social activities at your medical school		5.85		0.95	3.00	7.00
Opportunity to complete a capstone experience/project		5.36		1.26	1.00	7.00
Student support services that are available at your medical school		5.43		1.36	2.00	7.00
Opportunity to engage in interprofessional work / collaboration with other students during medical school		5.44		1.23	2.00	7.00

Table 5 Continued

Survey Item	*M* Years 1 & 2	*M* Years 3 & 4	*SD* Years 1 & 2	*SD* Years 3 & 4	Min.	Max.
Overall campus climate ("feel") at your medical school	5.55		1.46		1.00	7.00
Degree of racial and cultural diversity in the faculty population at your medical school	5.68		1.33		1.00	7.00
Degree of racial and cultural diversity in the student population at your medical school	5.75		1.38		1.00	7.00
The extent to which you feel prepared for residency	5.77		1.09		1.00	7.00
If you had it to do over, would you still choose to enter medical school?	4.20		1.05		1.00	5.00
If you had it to do over, would you choose the same medical school?	4.23		0.96		2.00	5.00

Note. *n* = 87; Min. = minimum item score; Max. = maximum item score. A 5-point rating scale was used for the questions pertaining to academic experience, student-life experience, and the last two questions; a 7-point rating scale was used for all other questions.

FSU CoM respondents. The mean total satisfaction score for the FSU CoM sample was 154.5, *SD* = 22.7. The distribution of scores did not fit the normal distribution very well. It was negatively skewed (-1.278), indicating a small number of very low scores created a tail in the direction of lower scores. The high kurtosis value (2.346) indicates more peakedness and extreme scores than the ideal normal distribution. The minimum score for total satisfaction among the FSU CoM respondents was 71, while the maximum score was 187.

Results indicated that the majority of FSU CoM students were generally satisfied with their overall medical school experience. The areas with a lower average satisfaction rating dealt with the quality of the academic advising and guidance received at the medical school, the opportunity to engage in interprofessional work or collaboration with other students, and the option to complete a capstone experience or

project. The level of satisfaction for these areas fell between *neutral* and *somewhat satisfied*.

Eight questions resulted in an average satisfaction rating that fell between *satisfied* and *very satisfied.* Of these questions, four pertained to the clerkship years (years 3 & 4), when FSU CoM students are at their regional campuses. The questions related to the relationships and interactions with staff, and the clerkship faculty; and, the presence, accessibility and availability of Clerkship Directors, and Deans. Additional areas of higher average satisfaction ratings included relationships and interactions with staff in years 1 and 2, the student support services available at the medical school, relationships and interactions with medical school peers, and the overall campus climate ("feel") at FSU CoM.

To the questions asking whether they would still choose to enter medical school, and still choose to attend FSU CoM, the mean response among the students in the sample fell between *probably yes* and *definitely yes*. Table 6 presents the means and standard deviations for the FSU CoM overall satisfaction questions.

Research Questions Findings

Seven research questions were investigated for this study. Analyses of the data were conducted per medical school and as a combined data set. Except where indicated, a significance level of .05 was used for all research questions. The two primary variables for the study were utilization of support services and overall satisfaction. To answer the research questions regarding the utilization of support services, the total utilization for services was calculated using four levels. After

Table 6

Descriptive Statistics for Overall Satisfaction at FSU CoM

Survey Item	*M* Years 1 & 2	*M* Years 3 & 4	*SD* Years 1 & 2	*SD* Years 3 & 4	Min.	Max.
Academic experience	3.28	3.58	1.12	1.04	1.00	5.00
Student-life experience	3.65	3.65	1.16	1.07	1.00	5.00
Work-life balance	5.63	5.75	1.60	1.45	1.00	7.00
Relationships and interactions, on average, with staff	6.07	6.32	1.15	1.18	2.00	7.00
Presence, accessibility, availability, on average, of Course / Clerkship Directors	5.92	6.13	1.20	1.35	2.00	7.00
Presence, accessibility, availability, on average, of Senior Administrators (Deans)	5.62	6.39	1.40	1.28	2.00	7.00
Relationships and interactions, on average, with course faculty and clinical experience preceptors	5.56		1.43		1.00	7.00
Quality and organization of pre-clerkship courses	5.35		1.41		1.00	7.00
Relationships and interactions, on average, with clerkship faculty (preceptors)		6.27		1.13	1.00	7.00
Quality and organization of your clerkships		5.75		1.39	1.00	7.00
The opportunity to provide feedback and input on curriculum content and instruction	5.32		1.64		1.00	7.00
Quality of the academic advising and guidance you received at your medical school	4.20		1.76		1.00	7.00
Relationships and interactions, on average, with your peers in medical school	6.06		1.22		2.00	7.00
Opportunity to attend school-sponsored social activities at your medical school	5.70		1.40		2.00	7.00
Opportunity to complete a capstone experience/project	4.70		1.60		1.00	7.00
Student support services that are available at your medical school	6.13		1.11		1.00	7.00
Opportunity to engage in interprofessional work/ collaboration with other students during medical school	4.44		1.77		1.00	7.00
Overall campus climate (“feel”) at your medical school	6.01		1.33		1.00	7.00
Degree of racial and cultural diversity in the faculty population at your medical school	5.51		1.75		1.00	7.00
Degree of racial and cultural diversity in the student population at your medical school	5.62		1.64		1.00	7.00
Extent to which you feel prepared for residency	5.93		1.10		2.00	7.00
If you had it to do over, would you still choose to enter medical school?	4.39		0.99		2.00	5.00
If you had it to do over, would you choose the same medical school?	4.61		0.75		1.00	5.00

Note. n = 71; Min. = minimum item score; Max. = maximum item score. A 5-point rating scale was used for the questions pertaining to academic experience, student-life experience, and the last two questions; a 7-point rating scale was used for all other questions. Cronbach’s alpha reliability coefficient for total overall satisfaction score = .93

combining the levels *never* and *not aware of service* into one category, the subsequent levels were coded as: 4 = More than 6 times, 3 = 4 to 6 times, 2 = 1 to 3 times, and 1 = never.

Overall satisfaction was analyzed using a total score for all the questions in section 3 of the surveys. Seven questions were scored using a 5-point scale, and the remaining 23 questions were scored on a 7-point scale. Therefore, the range for the total overall satisfaction score was 29 to 191. Cronbach's alpha reliability coefficients for the total overall satisfaction score were: USF MCOM = .94, FSU CoM = .93, Overall Study = .93.

Question 1: What is the direction and strength of the relationship between students' utilization of support services and their overall satisfaction? To answer this research question, a multiple regression analysis was conducted using overall satisfaction as the outcome variable and the utilization of each support service as the predicator variables. Separate analyses were conducted for each school.

The Pearson's product moment correlation coefficient was also calculated to determine the direction and strength of any correlation between utilization of each service, and the utilization of each service and overall satisfaction. Cohen (2013) suggests the following interpretations for the magnitude of a correlation coefficient: 0.10 = small; 0.30 = medium; and, 0.50 = large.

USF MCOM results. The multiple regression analysis, using each support service as predictor variables, revealed that there was a significant relationship between the utilization of at least one service and overall satisfaction; therefore, the null hypothesis was rejected, $F(7, 79) = 2.37$, $p = .030$; $R^2 = .17$, adjusted $R^2 = .10$.

This indicates that approximately 17% of the total variance in overall satisfaction was due to the utilization of support services. The regression analysis resulted in a medium effect size, $f^2 = .21$ (Cohen, 2013).

A significant, negative relationship was found between the utilization of the Academic Support Center and overall satisfaction, $p = .008$. The regression coefficient ($b = -10.18$, $SE = 3.71$) indicated that for every one unit increase in utilization of this service, overall satisfaction would decrease by approximately 10 points, while holding utilization of all other services constant. It should be noted that the Academic Support Center was only established in July, 2014; thus, the students from the study sample who utilized this service were already in their third-year of medical school and experiencing academic difficulty (C. O'Callaghan, personal communication, January 20, 2016). Therefore, a more valid exploration of the relationship between utilization of this service and overall satisfaction would have to begin with the graduating class of 2018, as the service would be available to those students throughout all four years of medical school.

No significant relationship was found between utilization of each of the remaining support services and overall satisfaction; however, it is worthwhile to note that the regression coefficients for the majority of the remaining services were positive. The regression results for utilization of services and overall satisfaction at USF MCOM are listed in Table 7.

The Pearson correlation coefficient analysis revealed a significant correlation between two of the support services and overall satisfaction. Utilization of the Academic Support Center had a negative, moderate correlation with overall satisfaction,

Table 7

Regression Results for Utilization of Services and Overall Satisfaction at USF MCOM

Support Service	*b*	*SE b*	*β*	*p*
MCOM Office of Student Affairs	0.066	2.504	0.003	.979
Peer Tutoring Program	-0.474	4.181	-0.013	.910
Academic Support Center	-10.181	3.710	-0.294	**.008****
MCOM Career Advising Program	4.532	3.094	0.165	.147
H.E.L.P.S.	-4.078	4.534	-0.101	.371
USF Counseling Center	2.331	4.282	0.061	.588
MCOM Office of Student Diversity & Enrichment	3.175	2.727	0.127	.248

Note. $n = 87$

*$p < .05$; **$p < .01$; Significant results depicted in bold font

$r = -.32$, $p = .002$; and, utilization of the Career Advising program produced a positive, low correlation with overall satisfaction, $r = .22$, $p = .041$.

The correlation values between services revealed significant, positive, moderate, correlations among the following services: The Office of Student Affairs and (a) the Peer Tutoring program, (b) H.E.L.P.S., and (c) the MCOM Office of Student Diversity and Enrichment. A positive, moderate correlation was also found between the utilization of the MCOM Career Advising program and the USF Counseling Center. A low, positive correlation existed between the utilization of the Peer Tutoring program and the H.E.L.P.S. program. Table 8 presents the results of the Pearson correlation coefficient analysis for USF MCOM services and overall satisfaction.

Table 8

Correlation Coefficient for USF MCOM Services and Overall Satisfaction

Service	PTP[a]	ASC	CAP	HELPS	CC	OSDE	Satis
OSA[a]	**.40****	.20	.17	**.32****	.12	**.30****	-.02
PTP		.02	.001	**.23***	.02	.05	-.03
ASC			-.04	.21	.06	-.04	**-.32****
CAP				-.11	**.36****	.07	**.22***
HELPS					.05	.005	-.18
CC						-.01	.09
OSDE							.15

Note. n = 87; [a]Services: OSA = MCOM Office of Student Affairs; PTP = Peer Tutoring Program; ASC = Academic Support Center; CAP = MCOM Career Advising Program; HELPS = Health Enhancement for Lifelong Professional Students; CC = USF Counseling Center; OSDE = MCOM Office of Student Diversity and Enrichment; and Satis = overall satisfaction.
**p < .05. **p < .01*; Significant results depicted in bold font

FSU CoM results. The results of the multiple regression analysis revealed a significant relationship between the utilization of at least one of the services and overall satisfaction; therefore, the null hypothesis was rejected, $F(7, 63) = 2.93$, $p = .010$, $R^2 = .24$, adjusted $R^2 = .16$. This suggests that approximately 24% of the total variance in overall satisfaction with the medical school experience at FSU CoM was due to the utilization of support services. The analysis resulted in a medium effect size, $f^2 = .33$.

There was a significant, negative relationship between the utilization of the Office of Student Counseling Services and overall satisfaction with the FSU CoM experience ($p = .003$). The regression coefficient ($b = -7.28$) indicated that for every one unit

increase in utilization of this service, overall satisfaction would decrease by approximately seven points, while holding the utilization of all other services constant. Given the fact that the specific services offered by this office are all related to academic and mental health counseling, this finding may suggest that some students in the sample were utilizing this service when they were already experiencing distress and feeling less satisfied with their medical school experience.

No significant relationship was found between utilization of each of the remaining support services and overall satisfaction; however, the regression coefficients for the majority of the remaining support services were positive. Table 9 lists the regression results for utilization of services and overall satisfaction at FSU CoM.

Table 9

Regression Results for Utilization of Services and Overall Satisfaction at FSU CoM

Support Service	*b*	*SE b*	*β*	*p*
Office of Student Counseling Services	7.361	2.398	-0.390	**.003****
Office of Student Affairs	3.683	2.987	-0.160	.222
Career/Academic Advising – Yrs. 1 & 2	6.014	3.819	0.195	.120
Career Advising – Yrs. 3 & 4	3.100	2.914	0.144	.291
First-Year Tutoring Program	-10.193	5.279	-0.227	.058
Learning and Study Resource Site	3.785	3.749	0.146	.317
Regional Student Support Coordinator	1.147	2.232	0.066	.609

Note. $n = 71$

*$p < .05$; **$p < .01$; Significant results depicted in bold font

The results of the Pearson correlation coefficient analysis revealed a significant correlation between the utilization of the Office of Student Counseling Services and overall satisfaction. The two variables were moderately negatively correlated, r = -.32, p = .007.

Significant, positive, correlations were found between the Learning and Study Resource Site and all other services. The Office of Student Affairs was positively and moderately correlated with the Regional Student Support Coordinator, and Career Advising during years 3 and 4. A positive and moderate correlation also existed between Career/ Academic advising in years 1 and 2 and Career Advising during years 3 and 4. Table 10 presents the results of the Pearson correlation coefficient analysis for FSU CoM and overall satisfaction.

Table 10

Correlation Coefficient for FSU CoM Services and Overall Satisfaction

Service	OSA[a]	C/AA	CA	FYTP	LSRS	RSSC	Satis
OSCS[a]	.23	.08	.18	.10	**.47****	**.33****	**-.32****
OSA		.22	**.36****	.17	**.28****	**.42****	-.13
C/AA			**.44****	.04	**.28****	.09	.23
CA				.16	**.41****	.09	.13
FYTP					**.34****	.15	-.20
LSRS						**.35****	-.02
RSSC							-.08

Note. n = 71; [a]Services: OSCS = Office of Student Counseling Services; OSA = Office of Student Affairs; C/AA = Career/Academic Advising during years 1 & 2; CA = Career Advising during years 3 & 4; FYTP = First-Year Tutoring Program; LSRS = Learning and Study Resource Site; RSSC = Regional Student Support Coordinator; and Satis = overall satisfaction

*p < .05; **p < .01; Significant results depicted in bold font

Question 2: What is the difference by gender with the utilization of student support services? *T* tests were conducted to determine the answer for this research question. An analysis was first completed using the combined FSU CoM and USF MCOM data as one set, and then conducted by school.

As a combined data set, the mean for utilization of support services by females (n = 79) was 14.61, SD = 3.40. The mean for males (n = 79) was 14.11, SD = 4.65. The equality of variance assumption was not met (p = .006 < .05). Results indicated that there was no significant difference between genders for utilization of support services, $t(142.88) = .76$, p = .4477, 95% CI [-0.79, 1.78], d = 0.12.

As separate data sets, the results also revealed that there was no significant differences between genders for utilization of support services at each school. At USF MCOM, the mean for females (n = 43) was 13.21, SD = 2.42, and the mean for males (n = 44) was 12.55, SD = 2.85. There was no evidence that the equality of variance assumption was violated (p = .288 > .05). The *t*-test results were: $t(85) = 1.17$, p = .245, 95% CI [-0.46, 1.79], d = 0.25.

At FSU CoM, the mean for females (n = 36) was 16.28, SD = 3.68, and the mean for males (n = 35) was 16.09, SD = 5.67. The equality of variance assumption was not met (p = .013 < .05); therefore, the Satterthwaite results were used: $t(58.032) = .17$, p = .867, 95% CI [-2.09, -2.47], d = .04

Question 3: What are the directions and magnitude of differences by race/ ethnicity and specialty choice with the utilization of student support services? For this question, the combined USF MCOM and FSU CoM data set was used in order to have

larger and acceptable sample sizes for the variables. All *prefer not to answer* responses were deleted from the combined data set.

Difference by race/ethnicity. Eight respondents who preferred not to indicate their race/ethnicity were deleted from the data set for this analysis. In order to facilitate more balanced sample sizes for the variable levels, only the racial/ethnic groups with greater representation were used for the analysis (n = 148). The final racial/ethnic groups used for the analysis included: Asian (n = 24), Black/African American (n = 17), Hispanic/Latino(a) (n = 14), and White/Caucasian (n = 93).

Results indicated that there was no evidence that the assumption of homogeneity of variance was violated (p = .634 > .05); therefore, the variances of the groups were approximately equal. The analysis of variance result was $F(3, 144) = 2.57$, p = .057, η^2 = .05; therefore, no significant difference was found in total utilization of student support services across racial/ethnic groups. Table 11 lists the mean utilization of services for each racial/ethnic group. The distribution of total utilization scores were within normal distribution ranges for all racial/ethnic groups except White/Caucasian. The distribution for this group was positively skewed and leptokurtic.

Difference by specialty choice. The total number of respondents for this portion of the analysis was 150, after the deletion of all *prefer not to answer* responses. Responses were recoded so that any listed subspecialty was added to the appropriate specialty category; for example, if the student listed his specialty choice as Cardiology, this response was recoded as Primary Care, since Cardiology is a subspecialty of Internal Medicine (a Primary Care specialty).

Table 11

Mean Utilization of Services by Race/Ethnicity

Race/Ethnicity	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Asian	24	13.46	2.75	0.828	-0.095	10	20
Black/African-American	17	16.82	4.36	0.509	-0.070	10	26
Hispanic/Latino(a)	14	14.85	3.94	0.935	0.801	10	24
White/Caucasian	93	14.27	4.23	1.730	3.990	9	33

Note. n = 148; Skew. = skewness; Kurt. = kurtosis; Min. = minimum utilization score; Max. = maximum total utilization score.

Specialties with larger representations were kept; and, all remaining specialties were combined into an *Other* category. The recoding resulted in six specialty groups for the final analysis: Emergency Medicine (7%), Primary Care (56%), Psychiatry (4%), Radiology (7%), Surgery (14%), and Other (12%). Levene's test for homogeneity of variance indicated that there was no evidence that the assumption was violated (p = .411 >.05). The results of the ANOVA indicated there was no significant difference in total utilization of support services across the six specialty choice groups, $F(5, 144) = 1.70$, $p = .140$, $\eta^2 = .05$. Table 12 contains the mean utilization of services for each specialty. The distribution of the total utilization scores for the Emergency Medicine and the Radiology groups were positively skewed and leptokurtic. The distribution for all groups, except Other, produced non-normal kurtosis.

Question 4: What is the difference by gender with overall satisfaction in medical school? Overall satisfaction was analyzed using a total score for all questions in section

Table 12

Mean Utilization of Services by Specialty Choice

Specialty Choice	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Emergency Medicine	10	13.40	2.37	1.420	2.330	10	17
Primary Care	84	14.98	4.58	0.030	-1.340	9	33
Psychiatry	6	16.67	3.44	0.247	-2.467	13	21
Radiology	11	14.00	4.00	1.130	1.300	10	23
Surgery	21	12.61	2.77	1.000	1.130	9	20
Other	18	14.56	3.17	1.000	0.364	11	22

Note. n = 15; Skew. = skewness; Kurt. = kurtosis; Min. = minimum total utilization score; Max. = maximum total utilization score.

3 of the survey. The analysis for this question was completed using the combined data set (*N* = 158), as well as separate USF MCOM and FSU CoM data sets.

For the entire study (combined data set), the mean overall satisfaction score for females (*n* = 79) was 152.7, *SD* = 21.94. Skewness (-1.216) and kurtosis (2.458) values suggest that the distribution of satisfaction scores for females was negatively skewed and leptokurtic. The minimum total score on overall satisfaction for females was 71, while the maximum score was 190.

The mean overall satisfaction score for males (*n* = 79) was 150.4, *SD* = 22.13. Skewness (-0.443) and kurtosis (-0.409) values suggest that the distribution of satisfaction scores for males was relatively normal. The minimum total score on overall satisfaction for males was 98, while the maximum score was 191. There was no evidence that the equality of variance assumption was violated ($p = .94 > .05$). The *t*

test resulted in no significant difference in overall satisfaction in medical school between genders, $t(156) = .66$, $p = .50$, 95% CI [-4.60, 9.26], $d = 0.11$.

As separate data sets, the results also revealed that there was no significant difference between genders for overall satisfaction among the students at each school. At USF MCOM, the mean for females ($n = 43$) was 151.3, $SD = 19.03$, skewness = -0.539, kurtosis = 0.917; and, the mean for males ($n = 44$) was 147, $SD = 23.19$, skewness = -0.331, kurtosis = -0.556. The distributions of scores for both genders were approximately normal. The minimum score on overall satisfaction among females was 97, while the maximum score was 190. Among the males, the minimum score on overall satisfaction was 98, while the maximum score was 191. There was no evidence that the equality of variance assumption was violated ($p = .203 > .05$). *T*-test results were $t(85) = 1.17$, $p = .245$, 95% CI [-4.70, 13.40], $d = 0.20$.

At FSU CoM, the mean score for overall satisfaction for females ($n = 36$) was 154.4, $SD = 25.16$, skewness = -1.66, kurtosis = 3.33; and, the mean score for males ($n = 35$) was 154.7, $SD = 20.24$, skewness = -0.522, kurtosis = -0.137. The minimum total score on overall satisfaction for females was 71, while the maximum was 187. Males had a minimum score of 108 and a maximum score of 187. The distribution of scores for females was negatively skewed and leptokurtic; however, the scores for males were approximately normally distributed. There was no evidence that the equality of variance assumption was violated ($p = .207 > .05$). The result of the *t* test was $t(69) = -0.05$, $p = .957$, 95% CI [-11.13, 10.54], $d = -0.01$.

Question 5: What are the directions and magnitude of differences by race/ethnicity and specialty choice with overall satisfaction in medical school? The combined data set was used to answer the components of this research question.

Differences by race/ethnicity. Eight respondents who preferred not to indicate their race/ethnicity were deleted for this analysis. Only the racial/ethnic groups with greater representation were used for the analysis in order to facilitate a more balanced sample size among the groups (n = 148). The final racial/ethnic groups used for the analysis included: Asian (n = 24), Black/African American (n = 17), Hispanic/Latino(a) (n = 14), and White/Caucasian (n = 93).

Results indicated that there was no evidence that the assumption of homogeneity of variance was violated (p = .717 > .05); therefore, the variances of the groups were approximately equal. The analysis of variance result was $F(3, 144) = 1.09$, p = .354, η^2 = .02; therefore, the null hypothesis was not rejected, as there was no significant difference in overall satisfaction with the medical school experience across racial/ethnic groups. Table 13 lists the mean overall satisfaction for each racial/ethnic group. Skewness values in Table 13 suggest that the distribution of overall satisfaction scores was negatively skewed and leptokurtic for the White/Caucasian group. The distribution of scores was also leptokurtic for the Hispanic/Latino(a) group.

Differences by specialty choice. The same specialty choice data set from the analysis for research question 3 was used for this portion of the analysis; therefore, the total number of respondents was 150. The six specialty groups for the final analysis were: Emergency Medicine (7%), Primary Care (56%), Psychiatry (4%), Radiology (7%), Surgery (14%), and Other (12%).

Table 13

Means for Overall Satisfaction by Race/Ethnicity

Race/Ethnicity	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Asian	24	148.62	19.77	-0.171	0.327	104	190
Black/African American	17	146.23	23.91	-0.502	-0.979	106	180
Hispanic/Latino(a)	14	150.14	16.66	-0.732	1.550	110	177
White/Caucasian	93	154.72	22.51	-1.190	2.174	71	191

Note. n = 148; Skew. = skewness; Kurt. = kurtosis; Min. = minimum overall satisfaction score; Max. = maximum overall satisfaction score

The ANOVA results indicated that the assumption of homogeneity of variance was not violated ($p = .495 > .05$); therefore, the variances of the groups are approximately equal. The result was $F(5, 144) = 2.00$, $p = .082$, $\eta^2 = .06$; therefore, there was no significant difference in overall satisfaction with the medical school experience across the six specialty groups. Table 14 presents the mean overall satisfaction for each specialty group. Skewness values in Table 14 indicate a negatively skewed and leptokurtic distribution of satisfaction scores for the Primary Care, and Radiology groups. The distribution of scores for the Other group was also negatively skewed.

Question 6: Which student support service is most utilized at each medical school? A repeated-measures analysis of variance was computed to answer this research question. Pairwise comparisons were conducted after the repeated-measures ANOVA in order to determine which groups were statistically different.

Table 14

Mean for Overall Satisfaction by Specialty Choice

Specialty Choice	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Primary Care	84	153.32	21.62	-1.189	2.352	71	187
Emergency Medicine	10	166.80	15.17	-0.844	0.100	137	186
Psychiatry	6	137.16	33.01	0.699	-0.113	101	190
Radiology	11	144.72	19.56	-1.551	3.105	97	170
Surgery	21	147.66	24.75	-0.092	-0.489	98	191
Other	18	153.27	16.67	-1.005	0.819	116	177

Note. n = 150; Skew. = skewness; Kurt. = kurtosis; Min. = minimum overall satisfaction score; Max. = maximum overall satisfaction score

Since a series of tests was being conducted with the pairwise comparisons, a significance level of .01 was used for this research question in order to control for the inflation of risk of Type I error. If the *p* value for the difference in means between services is less than .01, the difference in the mean utilization between the two services was statistically significant.

USF MCOM results. The Office of Student Affairs was the support service that was most utilized among the USF MCOM students. The utilization mean was 2.33, *SD* = 1.07, which indicates that the service was utilized more than 1 to 3 times, but less than 4 to 6 times. Skewness value (0.330) indicated a relatively normal distribution of utilization scores. Kurtosis value (-1.13) indicated a platykurtic distribution. The means for the utilization of each USF MCOM service are presented in Table 15. Examination

Table 15

Utilization Means for USF MCOM Services

Support Service	*M*[a]	*SD*	Skew.	Kurt.
MCOM Office of Student Affairs	2.33	1.070	0.330	-1.130
MCOM Career Advising Program	1.93	0.774	3.750	14.320
MCOM Office of Student Diversity and Enrichment	1.45	0.846	1.770	3.470
Academic Support Center	1.36	0.612	0.581	0.108
H.E.L.P.S.	1.19	0.524	3.170	11.260
Peer Tutoring Program	1.17	0.547	4.010	16.980
USF Counseling Center	1.16	0.574	1.890	2.730

Note. n = 87; Skew. = skewness; Kurt. = kurtosis; The minimum and maximum utilization scores for each service was 1 and 4 respectively.
[a] Scale: 4 = >6 times, 3 = 4 to 6 times, 2 = 1 to 3 times, and 1 = never/not aware of service.

of the data for the other six services revealed that only the Academic Support Center had an approximately normal distribution of utilization scores. The utilization distributions for the remaining services were positively skewed and leptokurtic.

The analysis revealed an overall significant difference among the utilization means for each service, $F(6, 516) = 37.31$, $p < .001$, partial $\eta^2 = 0.30$. The pairwise comparison analysis determined that the Office of Student Affairs was utilized by the students more frequently than all the other services; the MCOM Career Advising program was used more frequently than all other services except the Office of Student Affairs; and, the Office of Student Diversity and Enrichment was utilized more frequently than the Peer Tutoring program, and the USF Counseling Center. Table 16 lists the results of the pairwise comparison analysis for the USF MCOM services.

Table 16

Pairwise Comparison Results for Utilization of USF MCOM Services

Pairwise Difference	Mean Difference	Standard Error	Student's *t*	*p*
OSA – PTA	**1.161***	0.107	10.84	<.001
OSA – ASC	**0.965***	0.120	8.00	<.001
OSA – CAP	**0.402***	0.130	3.08	.003
OSA – HELPS	**1.136***	0.111	10.24	<.001
OSA – CC	**1.172***	0.123	9.56	<.001
OSA – OSDE	**0.873***	0.123	7.08	<.001
PTA – ASC	-0.195	0.089	-2.18	.031
PTA – CAP	**-0.758***	0.103	-7.33	<.001
PTA – HELPS	-0.022	0.073	-0.31	.754
PTA – CC	0.011	0.084	0.14	.892
PTA – OSDE	**-0.287***	0.107	-2.68	.009
ASC – CAP	**-0.563***	0.108	-5.21	<.001
ASC – HELPS	0.172	0.077	2.23	.028
ASC – CC	-0.091	0.085	-0.80	.422
ASC – OSDE	**0.735***	0.114	6.98	<.001
CAP – HELPS	**0.735***	0.105	6.98	<.001
CAP – CC	0.770*	0.082	9.29	<.001
CAP – OSDE	**0.471***	0.118	3.96	<.001
HELPS – CC	0.034	0.079	0.44	.664
HELPS – OSDE	-0.264	0.106	-2.48	.015
CC – OSDE	**-0.298***	0.108	-2.75	.007

Note. n = 87; OSA = MCOM Office of Student Affairs; PTA = Peer Tutoring Program; ASC = Academic Support Center; CAP = MCOM Career advising program; HELPS = Health Enhancement for Lifelong Professional Students; CC = USF Counseling Center; and OSDE = MCOM Office of Student Diversity & Enrichment.
*p < .01; Significant results indicated in bold

FSU CoM results. The Office of Student Counseling Services, as well as the Regional Student Support Coordinator were the support services that were most utilized among the FSU CoM students. The utilization mean for the Office of Student Counseling Services was 2.54, *SD* = 1.21. The utilization mean for the Regional Student Support Coordinator was 2.54, *SD* = 1.30, therefore, the students utilized both services more than 1 to 3 times, but less than 4 to 6 times. Skewness value (0.032) for the Office of Student Counseling Services indicated an approximately normal distribution of utilization scores. Kurtosis value (-1.56) indicated a platykurtic distribution. The distribution of scores for the Regional Student Support Coordinator was positively skewed (1.18), but fell within acceptable kurtosis levels (0.406). The means for the utilization of each service at FSU CoM are presented in Table 17. The skewness and kurtosis indices for the other five services revealed that only Career/ Academic advising in years 1 and 2 had an approximately normal distribution of utilization values.

There was an overall significant difference between the utilization means for each of the FSU CoM services, $F(6, 414) = 23.23$, $p = <.001$, partial $\eta^2 = 0.25$. The pairwise comparison analysis determined that the Office of Student Counseling Services and the Regional Student Support Coordinator were utilized more frequently than all other services; and, the First-Year Tutoring Program was used less frequently than all other services. The results of the pairwise comparison analysis for the FSU CoM services can be found in Table 18.

Table 17

Utilization Means for FSU CoM Services

Support Service	*M*[a]	*SD*	Skew.	Kurt.
Office of Student Counseling Services	2.54	1.210	0.032	-1.560
Regional Student Support Coordinator	2.54	1.300	1.180	0.406
Career Advising – 3 & 4	2.00	1.060	0.870	1.290
Career/Acad. Advising – 1 & 2	1.87	0.740	0.825	-0.501
Office of Student Affairs	1.78	0 991	4.340	19.330
Learning and Study Resource Site	1.72	0.883	1.340	1.420
First-Year Tutoring Program	1.11	0.497	-0.043	-1.750

Note. n = 71; Acad. = academic; Skew. = skewness; Kurt. = kurtosis. The minimum and maximum utilization scores for each service were 1 and 4 respectively

[a] Scale: 4 = >6 times, 3 = 4 to 6 times, 2 = 1 to 3 times, and 1 = never/not aware of service

Table 18

Pairwise Comparison Results for Utilization of FSU CoM Services

Pairwise Difference	Mean Difference	Standard Error	Student's *t*	*p*
OSCS – OSA	**0.757***	0.164	4.59	<.001
OSCS – C/AA	**0.671***	0.163	4.10	<.001
OSCS – CA	**0.542***	0.175	3.10	<.001
OSCS – FYTP	**1.429***	0.152	9.41	<.001
OSCS – LSRS	**0.814***	0.134	6.08	<.001
OSCS – RSSC	0.000	0.175	0.00	1.000
OSA – C/AA	-0.085	0.131	-0.65	.571
OSA – CA	-0.214	0.139	-1.53	.129
OSA – FYTP	**0.671***	0.123	5.44	<.001
OSA – LSRS	0.057	0.135	0.42	.673
OSA – RSSC	**-0.757***	0.152	-4.99	<.001
C/AA – CA	-0.128	0.119	-1.08	.282
C/AA – FYTP	**0.757***	0.105	7.23	<.001
C/AA – LSRS	0.142	0.117	1.21	.228
C/AA – RSSC	**-0.671***	0.172	-3.89	<.001

Table 18 Continued

Pairwise Difference	Mean Difference	Standard Error	Student's *t*	*p*
CA – FYTP	**0.885***	0.131	6.73	<.001
CA – LSRS	0.271	0.127	2.13	.036
CA – RSSC	**-0.542***	0.192	-2.83	<.001
FYTP – LSRS	**-0.614***	0.102	-6.00	<.001
FYTP – RSSC	**-1.428***	0.160	-8.94	<.001
LSRS – RSSC	**-0.814***	0.155	-5.24	<.001

Note. n = 71; OSCS = Office of Student Counseling Services; OSA = Office of Student Affairs; C/AA = Career/Academic Advising during Years 1 & 2; CA = Career Advising during Years 3 & 4; FYTP = First-Year Tutoring Program; LSRS = Learning and Study Resource Site; and RSSC = Regional Student Support Coordinator.
*p < .01; Significant results indicated in bold

Question 7: What is the direction and strength of the correlation between academic performance and utilization of student support services, as well as overall satisfaction? An analysis of variance was conducted to answer the components of this research question. Two questions in Section 1 of the survey pertained to academic performance. Students were asked to indicate whether or not they experienced academic difficulties in the pre-clerkship years or the clerkships years which resulted in stated consequences. The data from these two questions were transformed into three groups to create the academic performance variable. The three groups included: (a) no academic difficulty, (b) academic difficulty in either set of years, and (c) academic difficulty in both sets of years; they were coded as 0, 1, and 2 respectively. It was hypothesized that utilization of support services would increase as the experience of academic difficulty increased. Data were analyzed for each medical school using the total utilization of services score.

USF MCOM results. A frequency distribution analysis on the data set showed that 83% of the students did not experience any academic difficulty (n = 72), 11% experienced difficulty in either the pre-clerkship years or the clerkship years (n = 10), and 6% had academic difficulty in both the pre-clerkship and clerkship years (n = 5). The analysis revealed a significant relationship between academic performance and the utilization of support services, $F(2, 84) = 7.39$, $p = .001$, $\eta^2 = .15$**;** therefore, the null hypothesis was rejected. Levene's test for homogeneity of variance indicated that there was no evidence that the assumption was violated ($p = .553 > .05$).

A plausible reason for this significant relationship may be that students who are experiencing academic difficulty would be more apt to seek support services, be referred to them, or be mandated to utilize them (as part of an academic improvement plan). Students who are performing well academically may not necessarily believe they would benefit from utilizing the support services.

The results of the analysis indicated that the students who experienced academic difficulty in both the pre-clerkship and clerkship years utilized the support services the most. The total utilization means for the three groups were: Group 1 (no academic difficulty) = 12.51, Group 2 (academic difficulty in either set of years) = 13.50, and Group 3 (academic difficulty in both sets of years) = 16.80.

A pairwise comparison analysis revealed a significant difference in means. The total utilization of services for Group 1 was less than that of Group 3 (p = <.001), and Group 2 also utilized services less frequently than Group 3 (p = .044). The difference in utilization means between Group 1 and Group 2 was not significant (p = .467). The means and standard deviations for utilization of USF MCOM services by academic

performance are presented in Table 19. Group 2 was the only group whose distribution of scores was symmetric. Kurtosis results indicated non-normal values for each group, except Group 1.

The analysis also indicated a significant relationship between academic performance and overall satisfaction, $F(1, 85) = 11.77$, $p < .001$, $R^2 = .12$, Adjusted $R^2 = .11$, $\eta^2 = .14$. Approximately 12% of the total variance in overall satisfaction was due to academic performance. Levene's test for homogeneity of variance indicated that there was no evidence that the assumption was violated ($p = .919 > .05$).

The results revealed that those students who experienced the most academic difficulty (Group 3) were the least satisfied with their overall experience at the medical school. The means for overall satisfaction for the three academic performance groups were: Group 1 (no academic difficulty) = 152.25; Group 2 (academic difficulty in either set of years) = 138.40, and Group 3 (academic difficulty in both sets of years) = 125.20. The means and standard deviations for overall satisfaction by academic performance are presented in Table 20. The distribution of overall satisfaction scores were approximately normal only for Groups 1 and 2.

Table 19

Mean Utilization of USF MCOM Services by Academic Performance

Academic Performance	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Group 1	72	12.51	2.54	1.023	0.638	9	20
Group 2	10	13.50	2.22	-0.189	-1.468	10	16
Group 3	5	16.80	1.64	-1.736	3.251	14	18

Note. n = 87. Skew. = skewness; Kurt. = kurtosis; Min. = minimum total utilization score; Max. = maximum total utilization score; Group 1 = no academic difficulty; Group 2 = academic difficulty in either years 1 and 2 or years 3 and 4; Group 3 = academic difficulty in both sets of years

Table 20

Overall Satisfaction Means by Academic Performance at USF MCOM

Academic Performance	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Group 1	72	152.25	19.74	-0.377	-0.018	97	191
Group 2	10	138.40	20.99	-0.612	-0.937	104	166
Group 3	5	125.20	24.53	-0.257	-2.790	98	152

Note. n = 87. Skew. = skewness; Kurt. = kurtosis; Min. = minimum overall satisfaction score; Max. = maximum overall satisfaction score; Group 1 = no academic difficulty; Group 2 = academic difficulty in either years 1 and 2 or years 3 and 4; Group 3 = academic difficulty in both sets of years

The pairwise comparison analysis revealed a significant difference in means indicating that Group 1 was substantially more satisfied with their overall experience at USF MCOM than Group 3 (p = .013). No significant difference was found between Groups 1 and 2 (p = .109) nor between Groups 2 and 3 (p = .458).

FSU CoM results. The frequency distribution analysis on the data set showed that 79% of the students did not experience any academic difficulty (n = 56), 14% had difficulty in either Years 1 and 2 or Years 3 and 4 (n = 10), and 7% stated they experienced academic difficulty in Years 1 and 2, as well as in Years 3 and 4 (n = 5).

The ANOVA results indicated no significant relationship existed between academic performance and the utilization of support services, $F(2, 67) = 0.70$, p = .498, η^2 = .02. Levene's test for homogeneity of variance indicated that there was no evidence that the assumption was violated (p = .860 > .05). The null hypothesis was

not rejected, as there were no statistically significant differences among the utilization means.

The means for total utilization for the three academic performance groups were: Group 1 (no academic difficulty) = 15.85, Group 2 (academic difficulty in either set of years) = 16.60, and Group 3 (academic difficulty in both sets of years) = 18.40. The means and standard deviations for utilization of FSU CoM services by academic performance are presented in Table 21. Only Group 3 had an approximately normal distribution of total utilization scores.

The analysis indicated a significant relationship between academic performance and overall satisfaction, $F(1, 69) = 15.12$, $p < .001$, $R^2 = .18$, Adjusted $R^2 = .17$, $\eta^2 = .22$. Approximately 18% of the total variance in overall satisfaction was due to academic performance. Levene's test for homogeneity of variance indicated that there was no evidence that the assumption was violated ($p = .283 > .05$).

Table 21

Mean Utilization of FSU CoM Services by Academic Performance

Academic Performance	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Group 1	56	15.85	4.57	1.250	2.430	9	33
Group 2	10	16.60	5.56	0.742	-1.231	10	25
Group 3	5	18.40	5.32	0.591	-0.809	13	26

Note. $n = 71$. Skew. = skewness; Kurt. = kurtosis; Min. = minimum total utilization score; Max. = maximum total utilization score; Group 1 = no academic difficulty; Group 2 = academic difficulty in either years 1 and 2 or years 3 and 4; Group 3 = academic difficulty in both sets of years

The results revealed that the students who experienced academic difficulty in both sets of years were the least satisfied with their medical school experience. The means for overall satisfaction for the three academic performance groups were: Group 1 (no academic difficulty) = 159.28, Group 2 (academic difficulty in either set of years) = 141.10, and Group 3 (academic difficulty in both sets of years) = 128.20**.** The means and standard deviations for overall satisfaction by academic performance are presented in Table 22. Skewness and Kurtosis results indicated non-normal values for each Group.

Observations

The successful response rate yielded by this study was due in large part to utilizing Student Affairs personnel from each school who the students respected and knew well. An influx of responses to each survey occurred within minutes of the initial emails being sent out; however, after two days, responses essentially ceased.

Table 22

Overall Satisfaction Means by Academic Performance at FSU CoM

Academic Performance	*n*	*M*	*SD*	Skew.	Kurt.	Min.	Max.
Group 1	56	159.28	18.44	-1.099	2.746	88	187
Group 2	10	141.10	29.37	-1.763	3.257	71	171
Group 3	5	128.20	27.89	1.345	1.216	106	173

Note. n = 71. Skew. = skewness; Kurt. = kurtosis; Min. = minimum overall satisfaction score; Max. = maximum overall satisfaction score; Group 1 = no academic difficulty; Group 2 = academic difficulty in either years 1 and 2 or years 3 and 4; Group 3 = academic difficulty in both sets of years

Consequently, weekly reminders, verbal and/or email, from the Student Affairs personnel were necessary. Once the additional solicitation emails were sent out, the instant influx of responses would repeat and again last for two days. The opportunity to win a $50 Visa gift card also seemed to work well with this population.

Using an additional medical school for the study required approval from a separate Institutional Review Board and necessitated the assistance of an employee from that school in order to access and submit the necessary online application. This process would most likely require more time and planning if a researcher did not have any prior association with a medical school being used for a human-subjects study.

Chapter 5

Summary, Conclusions, Implications, and Recommendations

The purpose of this study was to investigate the relationship between the utilization of student support services and overall satisfaction in medical school. The study determined if there were any differences in utilization of support services, and overall satisfaction, by gender, race/ethnicity, and specialty choice. In addition, the study identified the most utilized support service, and explored whether academic performance was correlated with the utilization of services and overall satisfaction. The parts of this chapter include a summary of the study, the conclusions based on the findings of the data analysis, the implications of the study, and recommendations for future research.

Summary of the Study

Medical students tend to experience higher levels of distress (Thomas et al., 2007) and have a greater suicide rate (Schernhammer, 2005). As such, American allopathic medical schools are required to offer student support services in the areas of academic advising, personal counseling/well-being programs, career advising, and health services (LCME, 2014). As student satisfaction studies in undergraduate medical education tend to focus primarily on curriculum content and design, this quantitative study offered an additional perspective by exploring the impact of utilization of support services on overall satisfaction with the medical school experience.

To meet the purpose and objectives of this study, an anonymous, online, three-part survey was administered to the class of 2016 at the University of South Florida Morsani College of Medicine (USF MCOM) Core program, and at the Florida State University College of Medicine (FSU CoM). These medical schools were chosen for geographical convenience, program comparability and ease of accessibility to study participants.

The researcher created the online survey to comprise of three sections which included: Background Information, Utilization of Services, and Overall Satisfaction. Separate surveys were developed for each school in order to list, by name or title, the specific services that were offered at the respective schools. A panel of experts, as well as pilot tests and cognitive interviews with third-year medical students, were used to verify content validity for each survey. The test-retest method was executed to establish reliability for all survey items and a field test was conducted prior to the launch of the study.

To help facilitate a high response rate, the study was launched in February, a less hectic month in the students' fourth-year schedule. Additionally, student affairs personnel, who were known to the students, were used to distribute the initial participant email, as well as all reminder emails, to the class of 2016 students at each school. The study was closed on Sunday, March 13th, 2016 in order to ensure the students' responses to the overall satisfaction questions would not be influenced by their individual outcome in the Residency Match later that week.

The surveys yielded high response rates resulting in a sample size of 158 participants for the overall study, 87 respondents from USF MCOM and 71 respondents from FSU CoM.

Seven research questions were explored in this study. Analyses of the data were conducted both by medical school and as a combined data set. First, the relationship between students' utilization of each support services and their overall satisfaction with the medical school experience was investigated. The data were further analyzed to determine if gender, race/ethnicity, and specialty choice accounted for any variation in students' utilization of support services. Analyses were also conducted to examine which support service was most utilized at each medical school. The questions of whether academic performance impacts the utilization of support services, and overall satisfaction, were then explored. Additional research questions examined whether gender, race/ethnicity, and specialty choice affect students' overall satisfaction with their medical school experience.

Conclusions

The focus of this study was the utilization of academic and psychological support services and its impact on student satisfaction with the overall experience at medical school**.** The University of South Florida Morsani College of Medicine and the Florida State University College of Medicine were used for the study. The conclusions from the study are summarized below.

Overall study. The majority of the students utilized at least one of the seven support services available to them at their medical school. However, not all students were aware of all of the academic and/or well-being support service.

The individual utilization of most of the services did not predict students' overall satisfaction with their medical school experience.

The utilization of the primary service for academic counseling at each medical school was inversely related to satisfaction with the overall experience in medical school.

Students who utilized a support service tended to use additional services. The total utilization of support services was essentially the same among medical students regardless of gender, race/ethnicity, and specialty choice.

The majority of students were satisfied with their overall experience in medical school; however, as students experienced more academic difficulties throughout medical school, their level of satisfaction lessened.

Students tended to be less satisfied with the quality of the academic advising and guidance they received at their medical school.

Students tended to be more satisfied with their relationships and interactions with staff during their clerkship years, and with their medical school peers.

The level of overall satisfaction with the medical school experience was essentially the same among medical students regardless of gender, race/ethnicity, and specialty choice.

Students felt, if they were faced with the decision again, they would still choose to enter medical school, and still choose to attend the same medical school.

USF MCOM. The specific USF MCOM conclusions included below are in addition to those listed for the overall study.

Most students utilized the MCOM Office of Student Affairs for their academic and/or well-being support needs.

Those services that were located outside of the Morsani College of Medicine campus were the least utilized among the majority of the medical students.

The utilization of one service, the MCOM Career Advising program, had an impact on students' overall satisfaction at USF MCOM.

The utilization of the Academic Support Center was inversely related to satisfaction with the overall experience at USF MCOM. It should be noted that this service was established when the class of 2016 students were already in their third year of medical school.

Those students who utilized the MCOM Office of Student Affairs tended to also utilize the Peer Tutoring program, H.E.L.P.S. (an off- campus counseling service), as well as the MCOM Office of Student Diversity and Enrichment. Furthermore, students who utilized the MCOM Career Advising program or the Peer Tutoring program tended to also utilize the counseling services.

In regard to the impact of academic performance on utilization of services, results showed that greater experience of academic difficulties led to more utilization of support services.

In addition to the academic advising and guidance received at the medical school, USF MCOM students tended to also be less satisfied with the quality and organization of their pre-clerkship courses.

FSU CoM. Further to those found for the overall study, there were additional conclusions specific to FSU CoM. Those conclusions are listed below.

Though not all students were aware of every service, the majority of the students utilized most of the seven services available to them. The presence and availability of the Office of Student Counseling Services was well-known among all the students.

Most students utilized the Office of Student Counseling Services, as well as the Regional Student Support Coordinator, for their academic and/or well-being support needs. Students tended not to use the First-Year Tutoring program, but they utilized the other four services at approximately the same frequency.

The utilization of the Office of Student Counseling Services was inversely related to satisfaction with the overall experience at FSU CoM. Given the fact that the specific services offered by this office all pertain to academic and mental health counseling, this may suggest that some students were utilizing this support service when they were already experiencing distress and feeling less satisfied with their medical school experience.

Those students who utilized the Learning and Study Resource Site tended to utilize all the other services. Those who utilized the Regional Student Support Coordinator in their clerkship years also tended to have utilized the Office of Student Counseling Services and the Office of Student Affairs. Additionally, when students utilized their assigned faculty advisor for career/academic advising in their pre-clerkship years, they tended to do the same at their regional campuses during their clerkship years.

Pertaining to the question of whether or not academic performance relates to the utilization of services, results showed that the experience of academic difficulties did not lead students to utilize the support services any differently.

In addition to the academic advising and guidance received at the medical school, FSU CoM students tended to also be less satisfied with their opportunity to engage in interprofessional work or collaboration with other students, and the option to complete a capstone experience or project.

Though students at FSU CoM were generally satisfied with their overall medical school experience, the items with higher satisfaction ratings tended to be associated with their experience during their clerkship years.

Students also tended to note higher satisfaction ratings with their relationships and interactions with staff in the pre-clerkship years, the support services offered at their medical school, and the overall campus climate.

Implications

This study provides information on the utilization of support services by medical students in the state of Florida. It also adds to the knowledge of student satisfaction in Florida medical schools. Based on the findings of the study, implications are stated below.

Overall study. At both medical schools, students were not aware of all of the support services available to them. Therefore, it may be advantageous for student affairs and educational affairs administrators to emphasize the availability of support services to the students, as well as faculty advisors, throughout all years of medical school, in order to facilitate greater awareness.

Students at each medical school tended to be less satisfied with the academic advising and guidance they received during medical school. A more in-depth exploration of the expectations and needs of the student population would therefore be

warranted. The current procedures and practices for providing academic guidance throughout the four-year curriculum can then be refined or new programs created.

Understanding what factors affect medical students' satisfaction with their medical school experience can help administrators create or enhance those components within their curriculum and program to ensure that student expectations are being met, and the quality of their program is of the highest level. The specific results from this study which pertain to the level of student satisfaction with curricular and programmatic factors could be used by the Deans and Directors at USF MCOM and FSU CoM. More extensive exploration could then be launched for the purposes of further developing and improving the standards and quality of their medical education programs.

The study findings indicated that academic performance relates to utilization of support services at USF MCOM, and that overall satisfaction at both medical schools decreases as students experience more academic difficulties. This information could be used by the Student Affairs and Educational Affairs Deans to provide insight into the impression and beliefs that students have about the purposes and benefits of the support services offered at their respective medical schools.

Empirical evidence already exists on the occurrence of distress among medical students (Neumann et al., 2011; Thomas et al., 2007), and the higher suicide rate among physicians, during residency and beyond (Schernhammer & Colditz, 2004). Therefore, these findings could be used to implement an initiative to broaden the scope of the academic and psychological support services at the medical schools to include more preventive measures and proactive programs. Utilization of the support services

could then possibly result in an increased influence on student resiliency and the overall medical school experience.

USF MCOM. Based on the specific findings from the analysis of the USF MCOM data, additional implications are included below.

To help facilitate greater use of USF MCOM services, Deans could ensure that all offices for academic and/or well-being support have flexible hours of operation which will accommodate students' schedule throughout all four years of medical school.

As the Academic Support Center was only established in July 2014, the students from the class of 2016 who utilized this service were already in their third year of medical school and experiencing academic difficulty. Therefore, the impact of this support service's utilization on students' overall satisfaction with their medical school experience could be re-assessed using the class of 2018.

The USF MCOM Career Advising Program had an impact on the students' overall satisfaction with their experience at the medical school. Additional resources could be allocated to the further development and improvement of this service in order to enhance its impact on student experience.

Mental health services have been found to be among the most common student support needs throughout all four years of medical school (Paul et al., 2009). Prior research has also suggested that students tend not to utilize counseling services or may not have access to them, despite experiencing symptoms of depression (Givens & Tjia, 2002). The counseling services that are available to the USF MCOM students are both located off the College of Medicine campus. These two services were also the least utilized. Therefore, to ensure that the counseling needs of the student population are

being met, the medical school could complete an assessment to determine whether an on-site counseling service office with flexible hours of operation would be beneficial.

FSU CoM. Additional implications, based on the specific findings from the analysis of the FSU CoM data, are summarized below.

The Office of Student Counseling Services at FSU CoM was well-known among all students and was the most utilized service at the school. However, students may be utilizing this service mainly when they are already experiencing distress and feeling less than satisfied with their medical school experience. Since this office is staffed by licensed psychologists and services are free to students, the outreach practices and programs provided through this office could be enhanced to facilitate greater utilization as a preventive service.

The experience of academic difficulty did not lead FSU CoM students to utilize support services any differently, but it did relate to decreased overall satisfaction. Since FSU CoM students complete their clerkship years at regional campuses located throughout the state of Florida, their physical access to services located at the central campus changes. As such, the Office of Student Affairs could assess the need to provide greater access to academic and psychological services when students are at the regional campuses. The assessment could include whether or not the increased access can be facilitated through further development of the Regional Student Support Coordinator position and/or a traveling counselor/psychologist dedicated to the regional campuses.

Recommendations for Future Research

The areas for future research are based on the findings of this study. The recommendations for this research are listed below.

1. This study used only two medical schools within the state of Florida for its population and sample. Future research could be conducted using several comparable medical schools within Florida and results could be compared.
2. Using only two medical schools in Florida limited the sample size. Future research could include medical schools from additional states within the same geographical region in order to facilitate a larger sample size.
3. The study could be conducted using medical schools within different geographical regions of the United States. The results could then be compared by region.
4. The FSU CoM survey used in this study did not ask students to indicate their regional campus. Further research could be conducted, using a mixed-method design, to explore, in greater detail, the utilization of support services and students' overall satisfaction by regional campus, in order to determine if any differences might exist among the six regional campuses.
5. The two medical schools used in this study varied by program model. FSU CoM uses a community-based model and has regional campuses located throughout the state of Florida, while USF MCOM does not. Another study could be conducted using only medical schools with regional campuses. Data could be analyzed by regional campus and results compared by school.

6. The two medical schools used in this study are allopathic medical schools. Future research could be conducted with osteopathic medical schools in Florida in order to determine if differences exist between program types.
7. This study utilized a quantitative approach to investigate the research questions. Future research could use a qualitative design to interview medical students about their experience throughout medical school, the occasions when they used and did not utilize an academic and/or psychological support service, their beliefs regarding utilizing support services, and the role the availability of support might have played in their overall medical school experience.
8. Future research could investigate in further detail the utilization of support services by race/ethnicity using a mixed-method research design to include qualitative measures and a more balanced sample of the races/ethnicities.
9. Future research could also further explore overall satisfaction with the medical school experience by race/ethnicity using qualitative measures and a more balanced sample of the races/ethnicities.
10. This study surveyed only fourth-year students about their utilization of support services. Future research could employ a mixed-method design, using all medical students, to investigate the types of support services that might be most utilized by year. Results could then be used to create additional services or improve existing supports.
11. Results of this study suggest that academic performance relates to overall satisfaction with the medical school experience. Future research could investigate what factors affect academic performance during medical school.

The results could then be used to create programs and support services that would foster high academic performance.

12. Future research could investigate the role that utilization of support services plays in student persistence in medical school. Results could then be used to further develop and/or improve available services.
13. This study asked students about their level of satisfaction with their medical school program at the time of their graduation. Future research could include a longitudinal study which follows the students into their first year of residency training and explores their level of satisfaction with their medical school curriculum and program at that point. Results could be used to determine if any gaps exists between the medical school program and the needs of first-year residents.

References

Accreditation Council for Graduate Medical Education. (2015). *ACGME History.* Retrieved from: https://www.acgme.org/acgmeweb/tabid/122/About/ACGMEHistory.aspx

Accreditation Council for Graduate Medical Education. (2011). *Common program requirements.* Chicago, IL: Author. Retrieved from: https://www.acgme.org/acgmeweb/Portals/0/PDFs/Common_Program_Requirements_07012011[2].pdf

American College Personnel Association, & The National Association of Student Personnel Administrators. (2004). *Learning reconsidered: A campus-wide focus on the student experience*. Washington, DC: Author.

American Council on Education. (1937). *The student personnel point of view*. Washington, DC: Author. Retrieved from http://www.naspa.org/about/student-affairs

Association of American Medical Colleges. (2002). *A guide to the preparation of the medical student performance evaluation.* Washington, DC: Author. Retrieved from https://www.aamc.org/download/64496/data/mspeguide.pdf

Association of American Medical Colleges. (2007). Medical school graduation and attrition rates. *Analysis in Brief, 7*(2), 1-2. Retrieved from https://www.aamc.org/download/102346/data/aibvol7no2.pdf

Association of American Medical Colleges. (2014). Graduation rates and attrition factors for US medical school students. *Analysis in Brief, 14*(5), 1-2. Retrieved from https://www.aamc.org/download/379220/data/may2014aib-graduationratesandattritionfactorsforusmedschools.pdf

Association of American Medical Colleges. (2015a). *Medical schools*. Retrieved from https://www.aamc.org/about/membership/378788/medicalschools.html

Association of American Medical Colleges. (2015b). *Graduate questionnaire*. Retrieved from https://www.aamc.org/data/gq/

Association of American Medical Colleges. (2015c). *Road to becoming a doctor.* Washington, DC: Author. Retrieved from https://www.aamc.org/students/aspiring/basics/

Association of American Medical Colleges. (2015d). *Roadmap to residency: Understanding the process of getting into residency.* Washington, DC: Author. Retrieved from http://members.aamc.org/eweb/upload/2015%20AAMC%20Roadmap%20to%20Residency.pdf

AAMC Organization of Student Representatives. (1993). *Medical education in the United States: A student perspective*. Washington, DC: AAMC. Retrieved from https://www.aamc.org/download/374576/data/medical_education_in_the_us_a_student_perspective_10-93.pdf

AAMC Organization of Student Representatives. (2015). *Advice on applying to residency programs.* Washington, DC: AAMC. Retrieved from https://www.aamc.org/download/300722/data/adviceonapplyingtoresidencyprograms.pdf

Barnes, B. J., & Randall, J. (2012). Doctoral student satisfaction: An examination of disciplinary, enrollment, and institutional differences. *Higher Education, 53*, 47-75.

Beck, A. (2004). The Flexner report and the standardization of American medical education. *Journal of American Medical Association, 291*(17), 2139-2140.

Becker, M. J. (1995). *The relationship between coping strategies, gender-related traits, gender and academic attributes, and distress in first-year medical students* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9530524)

Borges, N. J., Manuel, R. S., Elam, C. L., & Jones, B. J. (2006). Comparing millennial and generation X medical students at one medical school. *Academic Medicine, 81*(6), 571-576.

Borges, N. J., Manuel, R. S., Elam, C. L., & Jones, B. J. (2010). Differences in motives between millennial and generation X medical students. *Medical Education, 44*, 570-576.

Bryant, J. L. (2006). Assessing expectations and perceptions of the campus experience: The Noel-Levitz student satisfaction inventory. *New Directions for Community Colleges, 2006*(134), 25-35.

Cheema, J. (2014). A review of missing data handling methods in education research. *Review of Educational Research, 84*(4), 487-508.

Clark, D. C., & Zeldow, P. B. (1988). Vicissitudes of depressed mood during four years of medical school. *Journal of the American Medical Association, 260*(17), 2521-2528.

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences* (electronic resource). New York, NY: Academic Press. Retrieved from: https://ebookcentral-proquestcom.ezproxy.lib.usf.edu/lib/usf/reader.action?docID=1882849

Cooper, R. A. (2003). Medical schools and their applicants: An analysis. *Health Affairs, 22*(4), 71-84.

Coulter, J. S., & Faulkner, D. C. (2014). The multigenerational workforce. *Professional Case Management, 19*(1), 46-51.

Council on Graduate Medical Education. (2010). *COGME 20th report: Advancing primary care*. Washington, DC: Author.

Dames, J. (2012). *A description of underrepresented minority female positionality while participating in a medical pipeline intervention*. Washington, DC: AAMC.

Dillman, D. A., Smyth J. D., & Christian L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method* (4th ed.). Hoboken, NY: Wiley.

Dungy, G., & Gordon, S. A. (2010). The development of student affairs. In J. H. Schuh, S. R. Jones, S. R. Harper, & Associates (Eds.), *Student services: A handbook for the profession* (pp. 68-86). Hoboken, NY: Wiley.

Dyrbye, L. N., Massie, F. S., Eacker, A., Harper, W., Power, D., Durning, S. J., Thomas, M. R., Moutier, C., Satele, D., Sloan, J., & Shanafelt, T. D. (2010). Relationship between burnout and professional conduct and attitudes among US medical students. *The Journal of American Medical Association, 304*(11), 1173-1180.

Dyrbye, L. N., Thomas, M. R., Eacker, A., Harper, W., Stanford-Massie, F., Power, D., Mashele, H., Novotny, P. J., Sloan, J. A., & Shanafelt, T. D. (2007). Race, ethnicity, and medical student well-being in the United States. *Archives of Internal Medicine, 167*(19), 2103-2109.

Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2005). Medical student distress: Causes, consequences, and proposed solutions. *Mayo Clinic Proceedings, 80*(12*), 1613-1622.*

Einarson, M.K., & Matier, M. W. (2005). Exploring race differences in correlates of seniors' satisfaction with undergraduate education. *Research in Higher Education, 46*(6), 641-676.

Flexner, A. (1910). *Medical education in the United States and Canada.* New York, NY: Carnegie Foundation for the Advancement of Teaching. Retrieved from https://babel.hathitrust.org/cgi/pt?id=hvd.hc2m9g;view=1up;seq=14

Ford, M., Masterton, G., Cameron, H., & Kristmundsdottir, F. (2008). Supporting struggling medical students. *The Clinical Teacher, 5*(4), 232-239.

Gartland, J., Hojat, M., Christian, E., Callahan, C., & Thomas, N. (2009). African American and white physicians: A comparison of satisfaction with medical education, professional careers, and research activities. *Teaching and Learning in Medicine: An International Journal, 15*(2), 106-112.

Gillies, R. A., Warren, P. R., Salazar, W. H., Wagner, P. J., & Huff, T. A. (2009). Why a medical career and what makes a good doctor? Beliefs of incoming United States medical students. *Education for Health, 22*(3), 1-13.

Givens, J. L. & Tija, J. (2002). Depressed medical students' use of mental health services and barriers to use. *Academic Medicine, 77*(9), 918-921.

Groves, R. M., Fowler, F. J., Couper, M., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey methodology*. Hoboken, NJ: Wiley.

Gruehn, D., Rebucal, K., Diehl, M., Lumney, M., & Labouvie-Vief, G. (2008). Correlates of time-based conceptualizations of emotional complexity. *Gerontology, 48*, 664-665.

Guthrie, E. A., Black, D., Shaw, C. M., Hamilton, J., Creed, F. H., & Tomenson, B. (1995). Embarking upon a medical career: Psychological morbidity in first-year medical students. *Medical Education, 29*(5), 337-341.

Hays, R., Lawson, M., & Gary, C. (2011). Problems presented by medical students seeking support: A possible intervention framework. *Medical Teacher, 33*, 161-164.

Helfgot, S. R. (2005). Core values and major issues in student affairs practice: What really matters? *New Directions for Community Colleges, 131*, 5-18.

Henning, M. A., Shulruf, B., Hawken, S. J., & Pinnock, R. (2011). Changing the learning environment: The medical student voice. *The Clinical Teacher, 8*(2), 83-87.

Howard, J. A. (2005). Why should we care about student expectations? In T. E. Miller, B. E. Bender, J. H. Schuh, & Associates (Eds.), *Promoting reasonable expectations* (pp. 10-32). San-Francisco, CA: Jossey-Bass.

Howell, L. P., Servis, G., & Bonham, A. (2005). Multigenerational challenges in academic medicine. UCDavis' response. *Academic Medicine, 80*(6), 527-532.

Huck, S. W. (2000). *Reading statistics and research (3rd ed.)*. New York, NY: Addison Wesley Longman.

Hurst, C., Kahan, D., Ruetalo, M., & Edwards, S. (2013). A year in transition: A qualitative study examining the trajectory of first year residents' well-being. *BMC Medical Education, 13*(96), 1-9.

Hyun, J. K., Quinn, B. C., Madon, T., & Lustig, S. (2006). Graduate student mental health: Needs assessment and utilization of counseling services. *Journal of College Student Development, 47*(3), 247-266.

Irby, D. (2011). Educating physicians for the future: Carnegie's calls for reform. *Medical Teacher, 33*(7), 547-550.

IsHak, W., Nikravesh, R., Lederer, S., Perry, R., Ogunyemi, D., & Bernstein, C. (2013). Burnout in medical students: A systematic review. *The Clinical Teacher, 10*, 242-245.

Jones, R. F., Ganem, J. L., Williams, D. J., & Krakower, J. Y. (1998). Review of US medical school finances, 1996-1997. *The Journal of American Medical Association, 280*(9), 813-818.

Karle, H. (2010). How do we define a medical school? Reflections on the occasion of the centennial of the Flexner report. *SQU Medical Journal, 10*(2), 160-168.

Lee, J., & Graham, A. (2001). Students' perception of medical school stress and their evaluation of a wellness elective. *Medical Education, 35*, 652-659.

Lefebvre, D. C. (2014). Resident physician wellness: A new hope. *Academic Medicine, 87*(5), 598-602.

Liaison Committee on Medical Education. (2014). Functions and structure of a medical School: Standards for accreditation of medical education program leading to the M.D. degree. Retrieved from http://www.lcme.org/publications.htm

Linzer, M., Levine, R., Meltzer, D., Poplau, S., Warde, C., & West, C. P. (2014). 10 bold steps to prevent burnout in general internal medicine. *Journal of General Internal Medicine, 29*(1), 18-20.

Lipworth, W., Kerridge, I., Little, M., Gordon, J., & Markham, P. (2012). Meaning and value in medical school curricula. *Journal of Evaluation in Clinical Practice, 18,* 1027-1035. doi: 10.1111/j.1365-2753.2012.01912.x

Ludmerer, K. M. (1999). *Time to heal: American medical education from the turn of the century to the era of managed care*. New York, NY: Oxford University Press.

Ludmerer, K. M. (2010). Commentary: Understanding the Flexner report. *Academic Medicine, 85*(2), 193-196.

Mader, E., Rodríguez, J., Campbell, K., Smilnak, T., Bazemore, A., Petterson, S., & Morley, C. (2016). *Medical Education Online, 21*, 1-7.

Mader, E., Roseamelia, C., & Morley, C. P. (2014). The temporal decline of idealism in two cohorts of medical students at one institution. *BMC Medical Education, 14*(58), 1-11.

Madgett, P., & Belanger, C. (2008). First university experience and student retention factors. *Canadian Journal of Higher Education, 38*(3), 77-96.

Maher, B., Hynes, H., Sweeney, C., Ali, K. S., O'Rourke, M., Doran, K., Harris, A., & O'Flynn, S. (2013). Medical school attrition–beyond the statistics: A ten year retrospective study. *BMC Medical Education, 13*(13), 2-16.

McGaghie, W. C., Cohen, E. R., & Wayne, D. B. (2011). Are United States medical licensing exam step 1 and 2 scores valid measures for postgraduate medical residency selection decisions? *Academic Medicine, 86*(1), 48-52.

McGuire, L. A., & Phye, J. (2006). The hidden curriculum in medical and law schools: A role for student affairs professionals. In M. Guentzel, & B. E. Nesheim (Eds.), *Supporting Graduate and Professional Students: The Role of Student Affairs.* San Francisco, CA: Jossey-Bass.

Medicare Payment Advisory Commission. (2009). *Report to the congress: Improving Incentives in the medicare program*. Washington, DC: MedPAC.

Miles, S., & Leinster, S. (2007). Medical students' perceptions of their educational environment: Expected versus actual perceptions. *Medical Education, 41*(2007), 265-272.

Miller, T. E. (2005). Introduction. In T. E. Miller, B. E. Bender, J. H. Schuh, & Associates (Eds.), *Promoting reasonable expectations* (pp. 1-9). San-Francisco, CA: Jossey-Bass.

National Association of Student Personnel Administrators. (1987). *A perspective on student affairs.* Washington, DC: Author. Retrieved from http://www.naspa.org/about/student-affairs

National Association of Student Personnel Administrators. (1989). *Points of view*. Washington, DC: Author.

National Association of Student Personnel Administrators. (1998). *Principles of good practice for student affairs*. Washington, DC: Author. Retrieved from http://www.naspa.org/about/student-affairs

National Association of Student Personnel Administrators. (2010). *Envisioning the future of student affairs.* Washington, DC: Author. Retrieved from http://www.naspa.org/about/student-affairs

Nesheim, B. E., Guentzel, M. J., Gansemer-Topf, A. M., Ross, L. E., & Turrentine, C. G. (2006). If you want to know, ask: Assessing the needs and experiences of graduate students. In M. J. Guentzel & B. E. Nesheim (Eds.), *Supporting graduate and professional students: The role of student affairs* (pp. 5-18). San-Francisco, CA: Jossey-Bass.

Neumann, M., Edelhauser, F., Tauschel, D., Fischer, M. R., Wirtz, M., Woopen, C., Haramati, A., & Scheffer, C. (2011). Empathy decline and its reasons: A systematic review of studies with medical students and residents. *Academic Medicine, 86*(8), 996-1009.

Nivet, M. A. (2010). Minorities in academic medicine: Review of the literature. *Journal of Vascular Surgery, 51*, 53S-58S.

Noel-Levitz. (2011). *National adult student priorities report.* Coralville, IA: Noel-Levitz.

Nuss, E. M. (2003). The development of student affairs. In S. Komvies & D. Woodward (Eds.), *Student services: A handbook for the profession* (pp. 65-88). San-Francisco, CA: Jossey-Bass.

O'Neill, L., Wallstedt, B., Eika, B., & Hartvigsen, J. (2011). Factors associated with dropout in medical education: A literature review. *Medical Education, 45,* 440-454.

Paul, G., Hinman, G., Dottl, S., & Passon, J. (2009). Academic development: A survey of academic difficulties experienced by medical students and support services provided. *Teaching and Learning in Medicine: An International Journal, 21*(3), 254-260.

Pock, A., Pangaro, L., Green, C., & Laughlin, L. (2013). Undergraduate medical education: Past, present, and future. *Military Medicine, 178*(5), 474-478.

Polit, D. (2014). Getting serious about test-retest reliability: A critique of retest research and some recommendations. *Quality of Life Research, 23*, 1713-1720.

Polit, D., & Beck, C. (2006). The content validity index: Are you sure you know what's being reported? Critique and recommendations. *Research in Nursing and Health, 29*, 489-497.

Rhatigan, J. J.(2009). A brief history of student affairs administration. In G. McClellan & J. Stringer (Eds.), *The handbook of student affairs administration* (pp.3-20). Hoboken, NJ: Wiley.

Reaume, D., & Ropp, T. (2005). Learning in medical school: Transition issues, strategy use, and self-regulation. *The Canadian Journal of Higher Education, 35*(4), 27-53.

Roberts, L. W., Warner, T. D., Lyketsos, C., Frank, E., Ganzini, L., Carter, D., & the Collaborative Research Group on Medical Student Health. (2001). Perceptions of academic vulnerability associated with personal illness: A study of 1,023 students at nine medical schools. *Comprehensive Psychiatry, 42*(1), 1-15.

Robins, L., Gruppen, L. D., Alexander, G. L., Fantone, J. C., & Davis, W. K. (1996). A model of student satisfaction with the medical school learning environment. *Academic Medicine: Journal of the Association of American Medical Colleges, 72*(2), 134-139.

Robinson, M. (2004). *Academic environmental influence on medical student satisfaction with their academic performance and subsequent persistence* (Doctoral dissertation). Available from ProQuest Dissertation and Theses database. (UMI No. 3134714)

Rutherford-Hemming, T. (2015). Determining content validity and reporting a content Validity index for simulation scenarios. *Nursing Education Perspectives, 36*(6), 389-393.

Sayer, M., Saintonge, M., Evans, D., & Wood, D. (2002). Support for students with academic difficulties. *Medical Education, 36*(2002), 643-650.

Schernhammer, E. S., & Colditz, G. A. (2004). Suicide rate among physicians: A quantitative and gender assessment (meta-analysis). *American Journal of Psychiatry, 161*, 2295-2302.

Schernhammer, E. S. (2005). Taking their own lives: The high rate of physician suicide. *The New England Journal of Medicine, 352*(24), 2473-2476.

Slavin, S. J., Wilkes, M. S., Usatine, R. P., & Hoffman, J. R. (2003). Curricular reform of the 4th year of medical school: The colleges model. *Teaching and Learning in Medicine: An International Journal, 15*(3), 183-193.

Smith-Barrow, D. (2014, September 4). Avoid medical school pitfalls as a first-year medical student. Retrieved from http://www.usnews.com/education/best-graduate-schools/top-medical-schools/articles/2014/09/04/avoid-common-mistakes-as-a-first-year-medical-student

Society for Human Resource Management. (2009). The multigenerational workforce: Opportunity for competitive success. *HR Magazine, 54*(3), 1-9.

Sorey, K. C., & Gregory, D. (2010). Protests in the sixties. *The College Student Affairs Journal, 28*(2), 184-206.

Stegers-Jager, K., Cohen-Schotanus, J., Splinter, T., & Themmen, A. (2011). Academic dismissal policy for medical students: Effects on study progress and help-seeking behaviour. *Medical Education, 45*, 987-994.

Tekian, A., Jalovecky, M. J., & Hruska, L. (2000). *A quantitative assessment of "at risk" students and medical school performance: The importance of adequate advising and mentorship.* Retrieved from: http://files.eric.ed.gov/fulltext/ED443347.pdf

Tessema, M., Ready, K., & Yu, W. 92012). Factors affecting college students' satisfaction with major curriculum: Evidence from nine years of data. *International Journal of Humanities and Social Sciences, 2*(2), 34-44.

The National Resident Matching Program. (2015). *Applicants: About rank order lists*. Retrieved from http://www.nrmp.org/match-process/create-and-certify-rol-applicants/

Thomas, M. R., Dyrbye, L. N., Huntington, J. L., Lawson, K. L., Paul, N. J., Sloan, J. A., & Shanafelt, T. D. (2007). How do distress and well-being relate to medical student empathy? A multicenter study. *Society of General Internal Medicine, 22*, 177-183.

Twenge, J. M. (2009). Generational changes and their impact in the classroom: Teaching generation me. *Medical Education, 43*, 398-405.

United States Medical Licensing Examination. (2015). *Step 2 CK.* Retrieved from http://www.usmle.org/step-2-ck/

USNEI. (2008). *Structure of the U.S. education system: Credit systems*. Washington, DC: International Affairs Office, U.S. Department of Education.

Wallace, J. E., & Lemarie, J. (2007). On physician well-being–you'll get by with a little help from your friends. *Social Science and Medicine, 64*(12), 2565-2577.

Willis, G. B. (2004). *Cognitive interviewing: A tool for improving questionnaire design*. Thousand Oaks, CA: Sage.

Wolf, T. M., Elaston, R. C., & Kissling, G. E. (1989). Relationship of hassles, uplifts and life events to psychosocial well-being of freshman medical students. *Journal of Behavioral Medicine, 15*, 37-45.

Wyatt, T., & Oswalt, S. B. (2013). Comparing mental health issues among Undergraduate and graduate students. *American Journal of Health Education, 44*(2), 96-107.

Yan, T., Conrad, F. G., Tourangeau, R., & Couper, M. P. (2010). Should I stay or should I go: The effects of progress feedback, promised task duration, and length of questionnaire on completing web surveys. *International Journal of Public Opinion Research, 23(*2), 131-147.

Appendices

Appendix A: Permission to Use Personnel Names

From: Painter, Carol <carol.painter@med.fsu.edu>
Date: Mon, Jan 4, 2016 at 6:16 PM
Subject: RE: follow up
To: Suzette Sookdeo <sssookdeo@mail.usf.edu>

Suzette,
You have my permission to include my name as a contributor to your survey with regard to the questions concerning the Student Counseling Services at FSU College of Medicine.

Thank you,

Carol A. Painter, PhD
Director of Student Counseling Services
Florida State University College of Medicine
1115 West Call Street G-146
Tallahassee, Florida
850-645-8256/Fax 850-645-9452
carol.painter@med.fsu.edu

From: Porter, Cheryl <cheryl.porter@med.fsu.edu>
Date: Mon, Jan 4, 2016 at 12:22 PM
Subject: RE: permission to use name
To: Suzette Sookdeo <sssookdeo@mail.usf.edu>

Hi Suzette,

She briefly mentioned the study to me. What an interesting topic!

You have my permission to use my name in your questionnaire for your dissertation study. Please let me know if you need anything else from me.

Thanks,
Cheryl

Cheryl Porter, Ph.D.
Clinical Assistant Professor
Office of Student Counseling Services
Florida State University College of Medicine
1115 West Call Street #G-146
Tallahassee, Florida 32306
850-645-9627/Fax 850-645-9452

Appendix A Continued

From: **O'Callaghan, Pamela** <pocallag@health.usf.edu>
Date: Wed, Jan 20, 2016 at 1:19 PM
Subject: RE: Permission to use name
To: Suzette Sookdeo <sssookdeo@mail.usf.edu>

Suzette,

Most definitely, you have my permission to use my name in the survey. I started at USF on July 21, 2014, after the class of 2016 had entered clinical rotations, therefore, my contact with this class has been limited to at-risk students. You will also want to consider that these students are rarely on campus and have a difficult time making appointments to see me.

Good luck, Pam

Pamela O'Callaghan, PhD
Director, Academic Support Center
USF Health, Morsani College of Medicine
12901 Bruce B. Downs Blvd. MDC 54 | Tampa, FL 33612-4799
Phone: 813-974-5815 | Fax: 813-974-2976 | pocallag@health.usf.edu

Appendix B: Invitation Email to Expert Panel

Dear {Name}:

I'd like to request your help in reviewing and validating a survey that I will be using for my dissertation research study. I value your expertise in {area of expertise} and would greatly appreciate your feedback.

The title of my research study is, "The Relationship between the Utilization of Student Support Services and Overall Satisfaction in Medical School." I will be using fourth-year medical students from two medical schools in Florida for my study. The survey I created consists of 3 sections: 1) Background Information, 2) Utilization of Services, and 3) Overall Satisfaction. There is a total of 45 questions. You will be indicating the degree of relevancy, clarity, and comprehension for each question, using a provided rater sheet. I estimate that the entire validation process may take approximately 30 to 40 minutes to complete.

If you are willing to participate, simply reply to this email. If you have further questions about the process or my research study, please contact me via email or call me at 1-XXX-XXX-XXXX.

Thank you very much for considering this request!

Sincerely,

Suzette S. Sookdeo
Doctoral Candidate, University of South Florida
Curriculum and Instruction w/ emphasis in Adult Education
IRB#: 24281
Faculty Advisor: Dr. William H. Young, III.

Appendix C: List of Expert Panel Members

Name of Expert	Area of Expertise	Affiliated Institution
Robert Dedrick, Ph.D.	Research and Measurement	University of South Florida
Christopher Leadem, Ph.D.	Student Affairs in Medical Education, and Medical Education	Florida State University
Carol Painter, Ph.D.	Student Affairs in Medical Education, Higher Education, and Medical Education	Florida State University
Dawn Schocken, MPH	Research, Higher Education, and Medical Education	University of South Florida
Jaimie Weber, M.D.	Medical Education	University of South Florida
Kira Zwygart, M.D.	Student Affairs in Medical Education, and Medical Education.	University of South Florida

Appendix D: Instruction Email to Expert Panel

Dear {Name}:

Thank you for your willingness to serve as a member of my Expert Panel for the purpose of validating the survey I am developing for my dissertation research study. Below are some key information and instructions for the review and validation process.

- The purpose of my study is to investigate the relationship between the utilization of student support services and overall satisfaction in medical school (IRB# Pro00024281, University of South Florida).

- I will be using only 4th-year medical students, from two medical schools in Florida, for the study.

- The survey consists of 3 sections/domains: 1. Background Information, 2. Utilization of Services, and 3. Overall Satisfaction. Section 1 includes questions related to relevant demographics, professional goal, and academic performance. Section 2 relates to the extent to which a specific support service was utilized by the student throughout medical school. Section 3 relates to the level of overall satisfaction that the student has with the academic and student life aspects of his medical school experience. All questions were created based on the current literature on medical education and student satisfaction, as well as, my professional experience in medical education.

- I am only focusing on the academic and psychological student support services offered at each of the schools.

- The services listed on the survey were verified by key school officials from the respective school as academic or psychological support services that are offered to their medical students; however, I value your professional experience and expertise and would welcome your thoughts on any specific aspects of **each** domain that you believe are not represented in the survey.

- Attached are the rater sheet and the survey. Please refer to the survey and complete the rater sheet, following the instructions at the top of the page. Once completed, please save the document and email it back to me by {date}.

If you have any further questions about the information above, or the study in general, please contact me via email or phone (Cell phone #).

Thank you for all of your help!

Sincerely,
Suzette

Appendix E: Content Validity Rater Sheet

DEFINITIONS:

Revelance= the degree to which the question aligns with the construct/domain that is being measured

Clarity = the degree to which the wording of the question is clear and concise

Comprehensiveness = the degree to which the question is easy to understand

Background Info = relevant demographics, professional goal, and a measure of academic performance

Utilization = the number of times the specific academic or psychological support service was used by a student throughout the four years of medical school.

Satisfaction = the degree to which a student expresses fullfillment with his overall experience (academic and student life) in medical school

DIRECTIONS:

Please refer to the copy of the survey and rate each question for relevance, clarity, and comprehensiveness using a rating scale from 1 to 5 (1 being the lowest and 5 being the highest).

If you believe there are any specific aspects to any of the domains that are not represented in the survey, please note those in the row labeled, "Any Missing Items."

Please state any concerns/thoughts/suggestions, regarding a question, in the corresponding Comments section.

Question Number on survey	Domain/ Construct	Item Note	Relevance (1 to 5)	Clarity (1 to 5)	Comprehensiveness (1 to 5)	Comments
1	Background Info	Gender				
2	Background Info	Age				
3	Background Info	Race/Ethnicity				
4	Background Info	Marital Status				
5	Background Info	Children				
6	Background Info	Residential Status				
7	Background Info	Specialty Choice				
8	Background Info	Step 1 (Academic Performance)				
9	Background Info	Step 2 (Academic Performance)				
Any Missing Items?	Background Info					
1	Utilization -FSU	Student Counseling				
2	Utilization - FSU	Career Advising				
3	Utilization -FSU	Tutoring				
4	Utilization -FSU	Study Resource				
5	Utilization - FSU	Support Coordinator				
6	Utilization - FSU	Other service				
Any Missing Items?	Utilization - FSU					
1	Utilization - USF	Student Affairs				
2	Utilization - USF	Academic Support				
3	Utilization - USF	Career Advising				
4	Utilization - USF	H.E.L.P.S				
5	Utilization - USF	Counseling Center				
6	Utilization - USF	Student Diversity				
7	Utilization - USF	Other service				
Any Missing Items?	Utilization - USF					
1	Satisfaction	Academic experience				
2	Satisfaction	Student life experience				
3	Satisfaction	pre-clinical faculty/preceptors				
4	Satisfaction	clinical faculty/preceptors				
5	Satisfaction	staff				
6	Satisfaction	Deans				
7	Satisfaction	Directors				
8	Satisfaction	pre-clinical courses				
9	Satisfaction	clerkships				
10	Satisfaction	curriculum input and feedback				
11	Satisfaction	Capstone experience				
12	Satisfaction	residency				
13	Satisfaction	support services				
14	Satisfaction	academic advising				
15	Satisfaction	diversity in faculty population				
16	Satisfaction	peers				
17	Satisfaction	interdisciplinary work				
18	Satisfaction	diversity in student population				
19	Satisfaction	social activities				
20	Satisfaction	work-life balance /preclinical				
21	Satisfaction	work -life balance/clinical				
22	Satisfaction	campus climate				
23	Satisfaction	same medical school				
Any Missing Items?	Satisfaction					

Appendix F: Mean Content Validity Ratings for Original Survey Items

SURVEY ITEM	MEAN RATING
Background Information	
Gender	4.95
Age	4.95
Race/Ethnicity	4.78
Marital Status	4.67
Are there children living in your primary residence?	3.80
Residential status	4.88
What is your intended specialty /area of practice?	4.78
What is your Step 1 score?	3.90
What is your Step 2 score?	3.90
Utilization of Services – FSU CoM	
The Office of Student Counseling Services (Drs. Painter and Porter)	4.78
Career advising (central and regional campus)	4.78
First- Year Tutoring Program	4.67
Learning and Study Resource Site (Blackboard site)	4.67
Student Support Coordinators (for voluntary individual academic and/or well-being support)	4.78
Other academic/well-being support service (central or regional campus). Please specify_____	4.78
Utilization of Services – USF MCOM	
MCOM Office of Student Affairs (for voluntary individual academic and/or well-being support)	4.45
Academic Support Center (Dr. O'Callaghan)	4.45
MCOM Career Advising/Collegium Programs	4.40
H.E.L.P.S. (off-campus counseling service)	4.67
USF Counseling Center (on main campus)	4.62
MCOM Office of Student Diversity and Enrichment	4.67
Other academic/well-being support service (on main campus). Please specify_____	4.78

Appendix F Continued

SURVEY ITEM	MEAN RATING
Overall Satisfaction	
Indicate to what extent your medical school program has met your expectations with your academic experience	4.83
indicate to what extent your medical school program has met your expectations with your student life experience	4.95
Your relationships and interactions with pre-clinical faculty and preceptors (years 1 & 2)	4.95
Your relationships and interactions with clinical faculty and preceptors (years 3 & 4)	4.78
Your relationships and interactions with staff	4.62
The presence, accessibility, and availability of senior Administrators (Deans).	4.78
The presence, accessibility and availability of administrative Directors (course/clerkship directors)	4.78
The quality and organization of your preclinical courses	4.78
The quality and organization of your clerkships (required and elective)	4.57
The opportunity to provide feedback and input on curriculum content and instruction	4.73
The opportunity to complete a Capstone experience/project	4.95
The extent to which you feel prepared for residency	4.88
The student support services that are available at your school	4.92
The quality of the academic advising and guidance you received throughout medical school	4.88
The degree of diversity in the faculty population at your school	4.78
Your relationships and interactions with your peers	4.67
The opportunity to engage in interdisciplinary work with other students	4.52
The degree of diversity in the student population at your school	4.57
The opportunity to attend school-organized social activities	4.68
Your work-life balance during your pre-clinical years	5.00
Your work-life balance during your clinical years	5.00
The overall campus climate at your medical school	4.57
If you had it to do over, would you choose the same medical school?	5.00

Appendix G: Revisions to Survey After Expert Panel Review

ORIGINAL QUESTION ITEM	REVISION
Gender	*Transgender* option added
Marital Status	*Widowed* option added
Are there children living in your primary residence?	Are you the parent of a child (children) living in your primary residence? Are you the parent of a child (children) living in a separate household?
What is your Step 1 score?	During Years 1 and 2, did you have any academic difficulties which resulted in **any** of the following: retaking an exam, remediating a course, or repeating a year?
What is your Step 2 score?	During Years 3 and 4, did you have any academic difficulties which resulted in **any** of the following: retaking an exam, repeating a clerkship, or repeating a year?
Utilization of Support Services items	Added *Tutoring Program* to USF MCOM services Added question: *Any other service for academic and/or well-being support at MCOM (Please specify what service you used).* Added question: *Any other service for academic and/or well-being support at FSU or FSU CoM central campus (Please specify what service you used).*
Overall Satisfaction items	Added specific examples for *staff* Added specific examples for *interdisciplinary collaboration with other students* Defined diversity as *racial and cultural* Added question: *If you had it to do over, would you still choose to enter medical school?*

Appendix H: Revisions to Survey After Pilot Tests

ORIGINAL ITEM	REVISION
Utilization of Support Services items (FSU CoM survey)	Added *The Office of Student Affairs* to services Split Career advising service by pre-clerkship (years 1 and 2) and clerkship (years 3 and 4) years. Added *Regional* to Student Support Coordinator service Added a definition for *Learning and Study Resource Site* Split *Other Service* by central and regional campus
Student-life experience- your campus experience as it relates to non-academic matters.	Student-life experience – your campus experience as it relates to non-academic, non-classroom matters (e.g. campus activities, student organizations, peer interactions outside classroom etc.)
Your academic experience	Your academic experience during years 1 & 2 Your academic experience during years 3 & 4
Your student-life experience	Your student-life experience during years 1 & 2 Your student-life experience during years 3 & 4
The presence, accessibility, and availability of senior administrators (Deans)	The presence, accessibility, and availability of senior administrators (Deans) during Years 1 & 2 The presence, accessibility, and availability of senior administrators (Deans) during Years 3 & 4 The presence, accessibility, and availability of senior administrators (central and regional Deans) during Years 3 & 4

Appendix H Continued

ORIGINAL ITEM	REVISION
Your relationships and interactions with staff (e.g. coordinators, administrators, administrative assistants etc.)	Your relationships and interactions with staff during years 1 & 2 (e.g. coordinators, administrators, administrative assistants etc.) Your relationships and interactions with staff during years 3 & 4 (e.g. coordinators, administrators, administrative assistants etc.)
The opportunity/ option to complete a Capstone experience/project.	The opportunity/ option to complete a Capstone experience/project. A Capstone experience is a culminating academic and intellectual experience that allows students to apply learned knowledge to real-life issues and results in a scholarly contribution, such as, a research study, paper/oral presentation, community project, etc.
The overall campus climate at your medical school	The overall campus climate (“feel”) at your medical school.

Appendix I: Estimated Reliability Coefficients for USF MCOM Survey Items

Item	Reliability Coefficient
Section 1 (Background Information)	
All questions	1.00
Section 2 (Utilization of Services)	
MCOM Office of Student Affairs	1.00
Peer Tutoring Program	1.00
The Academic Support Center	1.00
MCOM Career advising program	.86
H.E.L.P.S	1.00
MCOM Office of Student Diversity and Enrichment	1.00
Other service at USF main campus	1.00
Other service at MCOM campus	.86
Section 3 (Overall Satisfaction)	
Academic experience in Years 1 & 2	1.00
Academic experience in Years 3 & 4	1.00
Student-life experience in Years 1 & 2	.98
Student-life experience in Years 3 & 4	.86
Quality and organization of pre-clerkship courses during Years 1 & 2	.97
Quality and organization of your clerkships during Years 3 & 4	1.00
Relationships and interactions with course faculty and clinical experience preceptors in years 1 & 2	.98
Relationships and interactions with clerkship faculty (preceptors) in years 3 & 4	1.00
Opportunity to provide feedback and input on curriculum content and instruction	.99
Presence, accessibility, availability of Course Directors during years 1 & 2	1.00
Presence, accessibility, availability of Clerkship Directors during years 3 & 4	.99
Relationships and interactions with staff during years 1 & 2	1.00
Relationships and interactions with staff during years 3 & 4	.99

Appendix I Continued

Item	Reliability Coefficient
Presence, accessibility, availability of Senior Administrators (Deans) during years 1 & 2	.86
Presence, accessibility, availability of Senior Administrators (Deans) during years 3 & 4	.86
Opportunity to complete a capstone experience/project	.60
Extent to which you feel prepared for residency	.96
Student support services that are available at your medical school	.72
Quality of the academic advising and guidance you received at your medical school	.97
Degree of racial and cultural diversity in the faculty population at your medical school	.84
Relationships and interactions with your peers in medical school	1.00
Opportunity to engage in interprofessional work/ collaboration with other students during medical school	1.00
Degree of racial and cultural diversity in the student population at your medical school	.92
Opportunity to attend school-sponsored social activities at your medical school	1.00
Work-life balance during your pre-clerkship years	1.00
Work-life balance during your clerkship years	.94
Overall campus climate (“feel”) at your medical school	1.00
If you had it to do over, would you choose the same medical school?	.86
If you had it to do over, would you still choose to enter medical school?	.98

Note. N = 3

Appendix J: Estimated Reliability Coefficients for FSU CoM Survey Items

Item	Reliability Coefficient
Section 1 (Background Information	
All questions	1.00
Section 2 (Utilization of Services)	
Office of Student Counseling Services	1.00
Office of Student Affairs	1.00
Career/academic advising during Years 1 & 2	1.00
Career advising during Years 3 & 4	1.00
First-Year Tutoring Program	1.00
Learning and Study Resource Site	.86
Regional Student Support Coordinators	.86
Other service at FSU or FSU CoM central campus	1.00
Other service at regional campus	1.00
Section 3 (Overall Satisfaction)	
Academic experience in Years 1 & 2	.86
Academic experience in Years 3 & 4	.86
Student-life experience in Years 1 & 2	.86
Student-life experience in Years 3 & 4	1.00
Quality and organization of pre-clerkship courses during Years 1 & 2	.97
Quality and organization of your clerkships during Years 3 & 4	.94
Relationships and interactions with course faculty and clinical experience preceptors in years 1 & 2	1.00
Relationships and interactions with clerkship faculty (preceptors) in years 3 & 4	.50
Opportunity to provide feedback and input on curriculum content and instruction	.98
Presence, accessibility, availability of Directors (Education/ course directors) during years 1 & 2	1.00
Presence, accessibility, availability of Directors (Education/ Clerkship directors) during years 3 & 4	1.00

Appendix J Continued

Item	Reliability Coefficient
Relationships and interactions with staff during years 1 & 2	1.00
Relationships and interactions with staff during years 3 & 4	1.00
Presence, accessibility, availability of Senior Administrators (Deans) during years 1 & 2	.98
Presence, accessibility, availability of Senior Administrators (central and regional Deans) during years 3 & 4	1.00
Opportunity to complete a capstone experience/project	.94
Extent to which you feel prepared for residency	1.00
Student support services that are available at your medical school	1.00
Quality of the academic advising and guidance you received at your medical school	1.00
Degree of racial and cultural diversity in the faculty population at your medical school	1.00
Relationships and interactions with your peers in medical school	1.00
Opportunity to engage in interprofessional work/ collaboration with other students during medical school	.97
Degree of racial and cultural diversity in the student population at your medical school	1.00
Opportunity to attend school-sponsored social activities at your medical school	1.00
Work-life balance during your pre-clerkship years	.86
Work-life balance during your clerkship years	.94
Overall campus climate (“feel”) at your medical school	1.00
If you had it to do over, would you choose the same medical school?	1.00
If you had it to do over, would you still choose to enter medical school?	1.00

Note. N = 3

Appendix K: USF MCOM Survey

Informed Consent to Participate in Research

Information to consider before taking part in this research study:

Pro # 24281

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this research study. We are asking you to take part in a research study that is called: The Relationship between the Utilization of Student Support Services and Overall Satisfaction in Medical School. The person who is in charge of this research study is Suzette S. Sookdeo. This person is called the Principal Investigator.

Purpose of the Study

The purpose of this study is to explore the relationship between a medical student's use of support services and his/her overall satisfaction with his/her experience in medical school. Additionally, this study will look at differences in overall satisfaction and utilization of support services by various demographic factors.

Why are you being asked to take part?

We are asking you to take part in this research study because you are currently a fourth year medical student at an allopathic medical school in Florida. Your experience as a medical student is valued and participation in this research will help to develop knowledge about the impact of student support services on a medical student's experience in school.

Study Procedures

If you take part in this study, you will be asked to complete an online survey through an electronic website. All data will be collected anonymously. The online survey should take less than 10 minutes to complete. There will not be any additional follow-up after completion of the survey.

Alternatives / Voluntary Participation / Withdrawal

You have the alternative to choose not to participate in this research study.

You should only take part in this study if you want to volunteer; you are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your student status.

Benefits and Risks

We are unsure if you will receive any benefits by taking part in this research study. This research is considered to be minimal risk. However, there is the possibility that you may experience some emotional discomfort as you recall and reflect on the periods when you might have utilized certain support services. If this occurs and you require assistance, please contact your school's counseling services office.

Compensation

If you complete the survey, you will have the opportunity, if you choose, to enter an email address for a chance to win a $50 visa gift card. This will not be linked to your responses on the online survey.

Privacy and Confidentiality

It is possible, although unlikely, that unauthorized individuals could gain access to your responses. Confidentiality will be maintained to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet. However, your participation in this online survey involves risks similar to a person's everyday use of the Internet. If you complete and submit an anonymous survey and later request your data be withdrawn, this may or may not be possible as the researcher may be unable to extract anonymous data from the database.

Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are: the Principal Investigator, the advising professors and the University of South Florida Institutional Review Board (IRB).

Contact Information
If you have any questions about your rights as a research participant, please contact the USF IRB at 974-5638. If you have questions regarding the research, please contact the Principal Investigator at sssookdeo@mail.usf.edu

We may publish what we learn from this study. If we do, we will not let anyone know your name. We will not publish anything else that would let people know who you are. You can print a copy of this consent form for your records.

Appendix K Continued

I freely give my consent to take part in this study. I understand that by proceeding with this survey that I am agreeing to take part in research and I am 18 years of age or older.

- YES, PROCEED TO SURVEY
- NO, I DO NOT WISH TO PARTICIPATE

>>

(If no, respondent is taken to non-participant thank you screen. If yes, respondent is taken to section 1)

SECTION 1: BACKGROUND INFORMATION

Please answer the following questions:

Gender:

- Female
- Male
- Transgender
- Prefer not to answer

What is your age? (Please select from the drop down options)

(Age options ranged from *under 23* to *over 35*. A *prefer not to answer* option was also included)

Race/Ethnicity:

- Asian
- Black or African-American
- Hispanic or Latino(a)
- Multiracial

- Native American Indian
- Native Hawaiian or Pacific Islander
- White or Caucasian
- Prefer not to answer

Marital Status:

- Single/Never Married
- Married and living in same household
- Married and living in separate households
- Partnered or Cohabitating
- Divorced or Separated
- Widowed
- Prefer not to answer

Are you a parent of a child (children) living in your primary residence?

- Yes
- No
- Prefer not to answer

Are you a parent of a child (children) living in a separate household?

- Yes
- No
- Prefer not to answer

Residential Status:

- Lived in Florida for less than 5 years
- Lived in Florida for 5-10 years
- Lived in Florida for 11-15 years

- Lived in Florida for over 15 years
- Prefer not to answer

What is your intended specialty/area of practice?

- Primary care (PLEASE SPECIFY BELOW: Internal Medicine, Family Medicine, Pediatrics, or OB/GYN)

- Anesthesiology
- Dermatology
- Emergency Medicine
- Neurology
- Ophthalmology
- Pathology
- Physical Medicine and Rehabilitation
- Psychiatry
- Radiology
- Surgery
- Urology
- Subspecialty: Please specify
- Other: Please specify
- Prefer not to answer

During Years 1 & 2, did you have any academic difficulties which resulted in **any** of the following: retaking an exam, remediating a course, or repeating a year?

- Yes
- No

During Years 3 & 4, did you have any academic difficulties which resulted in **any** of the following: retaking an exam, repeating a clerkship, or repeating a year?

- Yes
- No

Appendix K Continued

<< >>

SECTION 2: UTILIZATION OF SERVICES

In your medical school experience thus far (Years 1 through 4), about how often did you utilize each of the following services for **academic and/or overall well-being** support?

MCOM Office of Student Affairs (for **voluntary or required** academic and/or well-being support)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware I could use the Office of Student Affairs in this manner

Peer Tutoring Program (In Years 1 & 2)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

The Academic Support Center (Dr. O'Callaghan's Office)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

Appendix K Continued

MCOM Career Advising Program

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

H.E.L.P.S. (off-campus counseling service)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

USF Counseling Center (on main campus)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

MCOM Office of Student Diversity and Enrichment

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

Any other service for academic and/or well-being support at the **USF *main campus*** **(PLEASE SPECIFY what service you used).**

- ☐ More than 6 times
- ☐ 4 to 6 times
- ☐ 1 to 3 times
- ☐ Did not use any other service
- ☐ Not aware of any other service

Any other service for academic and/or well-being support at ***MCOM campus*** **(PLEASE SPECIFY what service you used**).

- ☐ More than 6 times
- ☐ 4 to 6 times
- ☐ 1 to 3 times
- ☐ Did not use any other service
- ☐ Not aware of any other service

<< >>

SECTION 3: OVERALL SATISFACTION

For this section, please **reflect** on the type of **overall** experience you have had in medical school thus far (Years 1 through 4) and choose the one response that best applies to you for each question.

Please refer to the definitions below and indicate to what extent your medical school program has met your expectations on the specified areas.

Academic experience - your overall learning experience as it relates to all aspects of the academic courses/clerkships

Student-life experience - your overall campus experience as it relates to non-academic, non - classroom matters (e.g. campus activities, student organizations, peer interactions outside the classroom, etc.).

Appendix K Continued

	Much better than I expected	Better than I expected	About what I expected	Worse than I expected	Much worse than I expected
Your academic experience during Years 1 & 2	○	○	○	○	○
Your academic experience during Years 3 & 4	○	○	○	○	○
Your student-life experience during Years 1 & 2	○	○	○	○	○
Your student-life experience during Years 3 & 4	○	○	○	○	○

Please indicate your level of satisfaction with the following:

The quality and organization of your pre-clerkship courses during Years 1 & 2

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The quality and organization of your clerkships (required and elective) during Years 3 & 4

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix K Continued

Your relationships and interactions, on average, with course faculty and clinical experience preceptors in Years 1 & 2

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your relationships and interactions, on average, with clerkship faculty (preceptors) in Years
3 & 4

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The opportunity to provide feedback and input on curriculum content and instruction

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix K Continued

The presence, accessibility, availability, on average, of Course Directors during Years 1 & 2.

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The presence, accessibility, availability, on average, of Clerkship Directors during Years 3 & 4.

- Very satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your relationships and interactions, on average, with staff during Years 1 & 2 (e.g. coordinators, non-faculty administrators, administrative assistants, etc.)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix K Continued

Your relationships and interactions with staff, on average, during Years 3 & 4 (e.g. coordinators, non-faculty administrators, administrative assistants, etc.)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The presence, accessibility, and availability, on average, of Senior Administrators (Deans) during Years 1 & 2

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The presence, accessibility, and availability, on average, of Senior Administrators (Deans) during Years 3 & 4

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix K Continued

The ***option / opportunity*** to complete a Capstone experience/project. A Capstone experience is a culminating academic and intellectual experience that allows students to apply learned knowledge to real-life issues and results in a scholarly contribution, such as, a research study, paper/poster/oral presentation, community project, etc.

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The extent to which you feel prepared for residency

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The student support services that are available at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix K Continued

The quality of the academic advising and guidance you received at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The degree of racial and cultural diversity in the faculty population at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your relationships and interactions, on average, with your peers in medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The opportunity to engage in interprofessional work/collaboration with other students (e.g. nursing, pharmacy, social work, etc.) during medical school

- Very Satisfied
- Satisfied

- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The degree of racial and cultural diversity in the student population at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The opportunity to attend school-sponsored social activities at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your work-life balance during your pre-clerkship years (Years 1 & 2)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied

- Dissatisfied
- Very Dissatisfied

Your work-life balance during your clerkship years (Years 3 & 4)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The overall campus climate ("feel") at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

If you had to do it over, would you choose the same medical school?

- Definitely yes
- Probably yes
- I am not sure
- Probably no
- Definitely no

Appendix K Continued

If you had to do it over, would you still choose to enter medical school?

- Definitely yes
- Probably yes
- I am not sure
- Probably no
- Definitely no

<< >>

Thank you so much for taking the time to complete the survey!
Your responses have been submitted.

If you would like to submit an email address for a chance to win the $50 VISA gift card, please send your email address to suzettesookdeo@gmail.com

Appendix L: FSU CoM Survey

Informed Consent to Participate in Research

Information to consider before taking part in this research study:

Pro # 24281

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this research study. We are asking you to take part in a research study that is called: The Relationship between the Utilization of Student Support Services and Overall Satisfaction in Medical School. The person who is in charge of this research study is Suzette S. Sookdeo. This person is called the Principal Investigator.

Purpose of the Study

The purpose of this study is to explore the relationship between a medical student's use of support services and his/her overall satisfaction with his/her experience in medical school. Additionally, this study will look at differences in overall satisfaction and utilization of support services by various demographic factors.

Why are you being asked to take part?

We are asking you to take part in this research study because you are currently a fourth year medical student at an allopathic medical school in Florida. Your experience as a medical student is valued and participation in this research will help to develop knowledge about the impact of student support services on a medical student's experience in school.

Study Procedures

If you take part in this study, you will be asked to complete an online survey through an electronic website. All data will be collected anonymously. The online survey should take less than 10 minutes to complete. There will not be any additional follow-up after completion of the survey.

Alternatives / Voluntary Participation / Withdrawal

You have the alternative to choose not to participate in this research study.

You should only take part in this study if you want to volunteer; you are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your student status.

Appendix L Continued

Benefits and Risks

We are unsure if you will receive any benefits by taking part in this research study. This research is considered to be minimal risk. However, there is the possibility that you may experience some emotional discomfort as you recall and reflect on the periods when you might have utilized certain support services. If this occurs and you require assistance, please contact your school's counseling services office.

Compensation

If you complete the survey, you will have the opportunity, if you choose, to enter an email address for a chance to win a $50 visa gift card. This will not be linked to your responses on the online survey.

Privacy and Confidentiality

It is possible, although unlikely, that unauthorized individuals could gain access to your responses. Confidentiality will be maintained to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet. However, your participation in this online survey involves risks similar to a person's everyday use of the Internet. If you complete and submit an anonymous survey and later request your data be withdrawn, this may or may not be possible as the researcher may be unable to extract anonymous data from the database.

Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are: the Principal Investigator, the advising professors and the University of South Florida Institutional Review Board (IRB).

Contact Information

If you have any questions about your rights as a research participant, please contact the FSU Office of Research, Human Subjects at 850-644-7900 or the USF IRB at 813-974-5638. If you have questions regarding the research, please contact the Principal Investigator, Suzette S. Sookdeo, at sssookdeo@mail.usf.edu or Dr. Robert Campbell, at 850-645-9149.

We may publish what we learn from this study. If we do, we will not let anyone know your name. We will not publish anything else that would let people know who you are. You can print a copy of this consent form for your records.

Appendix L Continued

I freely give my consent to take part in this study. I understand that by proceeding with this survey that I am agreeing to take part in research and I am 18 years of age or older.

- YES, PROCEED TO SURVEY
- NO, I DO NOT WISH TO PARTICIPATE

>>

(If no, respondent is taken to non-participant thank you screen. If yes, respondent is taken to section 1)

SECTION 1: BACKGROUND INFORMATION

Please answer the following questions

Gender:

- Female
- Male
- Transgender
- Prefer not to answer

What is your age? (Please select from the drop down options)

(Age options ranged from *under 23* to *over 35*. A *prefer not to answer* option was also included)

Race/Ethnicity:

- Asian
- Black or African-American
- Hispanic or Latino(a)
- Multiracial
- Native American Indian

- Native Hawaiian or Pacific Islander
- White or Caucasian
- Prefer not to answer

Marital Status:

- Single/Never Married
- Married and living in same household
- Married and living in separate households
- Partnered or Cohabitating
- Divorced or Separated
- Widowed
- Prefer not to answer

Are you a parent of a child (children) living in your primary residence?

- Yes
- No
- Prefer not to answer

Are you a parent of a child (children) living in a separate household?

- Yes
- No
- Prefer not to answer

Residential Status:

- Lived in Florida for less than 5 years
- Lived in Florida for 5-10 years
- Lived in Florida for 11-15 years
- Lived in Florida for over 15 years
- Prefer not to answer

Appendix L Continued

What is your intended specialty/area of practice?

- Primary care (PLEASE SPECIFY BELOW: Internal Medicine, Family Medicine, Pediatrics, or OB/GYN)
- Anesthesiology
- Dermatology
- Emergency Medicine
- Neurology
- Ophthalmology
- Pathology
- Physical Medicine and Rehabilitation
- Psychiatry
- Radiology
- Surgery
- Urology
- Subspecialty: Please specify
- Other: Please specify
- Prefer not to answer

During Years 1 & 2, did you have any academic difficulties which resulted in **any** of the following: retaking an exam, remediating a course, or repeating a year?

- Yes
- No

During Years 3 & 4, did you have any academic difficulties which resulted in **any** of the following: retaking an exam, repeating a clerkship, or repeating a year?

- Yes
- No

<< >>

Appendix L Continued

SECTION 2: UTILIZATION OF SERVICES

In your medical school experience thus far (Years 1 through 4), about how often did you utilize each of the following services for **academic and/or overall well-being** support?

The Office of Student Counseling Services (Drs. Painter and Porter's office)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

The Office of Student Affairs (for **voluntary or required** academic and/or well-being support)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware that I could use the Office of Student Affairs in this manner

Career/Academic Advising (assigned faculty advisor) during Years 1 & 2.

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

Career Advising (assigned faculty advisor) during Years 3 & 4.

- More than 6 times
- 4 to 6 times
- 1 to 3 times

Appendix L Continued

- Never
- Not aware of service

First-Year Tutoring Program

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

Learning and Study Resource Site (offered through Drs. Painter and Porter's office on Blackboard for study skills, Step 1 preparation, stress management strategies, etc.).

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware of service

Regional Student Support Coordinators (for voluntary or required individual academic and/or well-being support)

- More than 6 times
- 4 to 6 times
- 1 to 3 times
- Never
- Not aware I could use Student Support Coordinator in this manner

Any other service for academic and/or well-being support at the *FSU or FSU CoM central campus* (**PLEASE SPECIFY what service you used).**

- More than 6 times
- 4 to 6 times
- 1 to 3 times

Appendix L Continued

- ☐ Did not use any other service
- ☐ Not aware of any other service

Any other service for academic and/or well-being support at *Regional campus* **(PLEASE SPECIFY what service you used**).

- ☐ More than 6 times
- ☐ 4 to 6 times
- ☐ 1 to 3 times
- ☐ Did not use any other service
- ☐ Not aware of any other service

<< >>

SECTION 3: OVERALL SATISFACTION

For this section, please **reflect** on the type of **overall** experience you have had in medical school thus far (Years 1 through 4) and choose the one response that best applies to you for each question.

Please refer to the definitions below and indicate to what extent your medical school program has met your expectations on the specified areas.

Academic experience - your overall learning experience as it relates to all aspects of the academic courses/clerkships

Student-life experience - your overall campus experience as it relates to non-academic, non - classroom matters (e.g. campus activities, student organizations, peer interactions outside the classroom, etc.).

Appendix L Continued

	Much better than I expected	Better than I expected	About what I expected	Worse than I expected	Much worse than I expected
Your academic experience during Years 1 & 2	○	○	○	○	○
Your academic experience during Years 3 & 4	○	○	○	○	○
Your student-life experience during Years 1 & 2	○	○	○	○	○
Your student-life experience during Years 3 & 4	○	○	○	○	○

Please indicate your level of satisfaction with the following:

The quality and organization of your pre-clerkship courses during Years 1 & 2

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The quality and organization of your clerkships (required and elective) during Years 3 & 4

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix L Continued

Your relationships and interactions, on average, with course faculty and clinical experience preceptors in Years 1 & 2

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your relationships and interactions, on average, with clerkship faculty (preceptors) in Years
3 & 4

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The opportunity to provide feedback and input on curriculum content and instruction

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix L Continued

The presence, accessibility, availability, on average, of Directors (Education/course directors) during Years 1 & 2

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The presence, accessibility, availability, on average, of Directors (Education/Clerkship directors) during Years 3 & 4

- Very satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your relationships and interactions, on average, with staff during Years 1 & 2 (e.g. coordinators, administrators, administrative assistants, etc.)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix L Continued

Your relationships and interactions with staff, on average, during Years 3 & 4 (e.g. coordinators, administrators, administrative assistants, etc.)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The presence, accessibility, and availability, on average, of Senior Administrators (Deans) during Years 1 & 2

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The presence, accessibility, and availability, on average, of Senior Administrators (central and regional Deans) during Years 3 & 4

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix L Continued

The ***option / opportunity*** to complete a Capstone experience/project. A Capstone experience is a culminating academic and intellectual experience that allows students to apply learned knowledge to real-life issues and results in a scholarly contribution, such as, a research study, paper/poster/oral presentation, community project, etc.

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The extent to which you feel prepared for residency

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The student support services that are available at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Appendix L Continued

The quality of the academic advising and guidance you received at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The degree of racial and cultural diversity in the faculty population at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your relationships and interactions, on average, with your peers in medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The opportunity to engage in interprofessional work/collaboration with other students (e.g. nursing, pharmacy, social work, etc.) during medical school

- Very Satisfied

- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The degree of racial and cultural diversity in the student population at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The opportunity to attend school-sponsored social activities at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your work-life balance during your pre-clerkship years (Years 1 & 2)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral

- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Your work-life balance during your clerkship years (Years 3 & 4)

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

The overall campus climate ("feel") at your medical school

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

If you had to do it over, would you choose the same medical school?

- Definitely yes
- Probably yes
- I am not sure
- Probably no
- Definitely no

Appendix L Continued

If you had to do it over, would you still choose to enter medical school?

- Definitely yes
- Probably yes
- I am not sure
- Probably no
- Definitely no

<< >>

Thank you so much for taking the time to complete the survey!
Your responses have been submitted.

If you would like to submit an email address for a chance to win the $50 VISA gift card, please send your email address to
sssookdeo@mail.usf.edu

Appendix M: Letter of Support From FSU CoM

THE FLORIDA STATE UNIVERSITY
COLLEGE OF MEDICINE

November 24, 2015

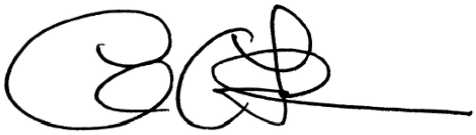
Suzette Sookdeo, M.S.Ed
Department of Adult, Career and Higher Education
College of Education
University of South Florida

Dear Suzette,

I have reviewed your doctoral research proposal *The Relationship between the Utilization of Student Support Services and Overall Satisfaction in Medical School* and am pleased to offer any assistance necessary to support your research here at the Florida State University College of Medicine. As we discussed, once you receive your institution's IRB approval, we will need to submit your proposal and survey to our college's Student Survey Committee for their approval before it can be distributed to our fourth year students.

Please let me know if you require any additional information.

Sincerely,



Christopher A. Leadem, Ph.D.
Associate Dean for Student Affairs and Admissions
Associate Professor of Biomedical Sciences
1115 West Call Street
Tallahassee, FL 32306
christopher.leadem@med.fsu.edu
850-645-6475

Appendix N: Study Approval Letter From USF IRB

UNIVERSITY OF SOUTH FLORIDA

RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-7091

December 23, 2015

Suzette Sookdeo,
L-CACHE - Leadership, Counseling, Adult, Career & Higher Education
Tampa, FL 33647

RE: **Exempt Certification**
IRB#: Pro00024281
Title: The Relationship between the Utilization of Student Support Services and Overall Satisfaction in Medical School.

Dear Ms. Sookdeo:

On 12/23/2015, the Institutional Review Board (IRB) determined that your research meets criteria for exemption from the federal regulations as outlined by 45CFR46.101(b):

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

Approved Items:

Protocol_Version#1_1242015

Informed Consent_Version#1_121815

As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF HRPP policies and procedures.

Please note, as per USF HRPP Policy, once the Exempt determination is made, the application is closed in ARC. Any proposed or anticipated changes to the study design that was previously

Appendix N Continued

declared exempt from IRB review must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant an amendment or new application.

Given the determination of exemption, this application is being closed in ARC. This does not limit your ability to conduct your research project.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

John Schinka, Ph.D., Chairperson
USF Institutional Review Board

Appendix O: Proposal Approval Letter From FSU CoM Research Advisory Committee

THE FLORIDA STATE UNIVERSITY
COLLEGE OF MEDICINE

Date: January 28, 2016

FSU CoM Lead Investigator: Robert Campbell

FSU IRB PI: Suzette Sookdeo

Study Title:
The Relationship between the Utilization of Student Support Services and Overall Satisfaction in Medical School

Dear Robert Campbell:

Thank you for the submission of the above named research proposal. The FSU College of Medicine's Research Advisory Committee has reviewed your proposal as required by the College's policies on human subjects research. Please submit your study to the governing Institutional Review Board.

FSU CoM Research Advisory Committee Chair

Key Personnel:
MED\robert.campbell
Suzette Sookdeo, M.S.Ed

Appendix P: Study Approval Letter From FSU IRB

Office of the Vice President for Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 02/22/2016

To: Robert Campbell <robert.campbell@med.fsu.edu>

Address: 1115 W. Call St., Tallahassee FL, 32306

Dept.: COLLEGE OF MEDICINE

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
The Relationship between the Utilization of Student Support Services and Overall Satisfaction in Medical School.

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 02/17/2017 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

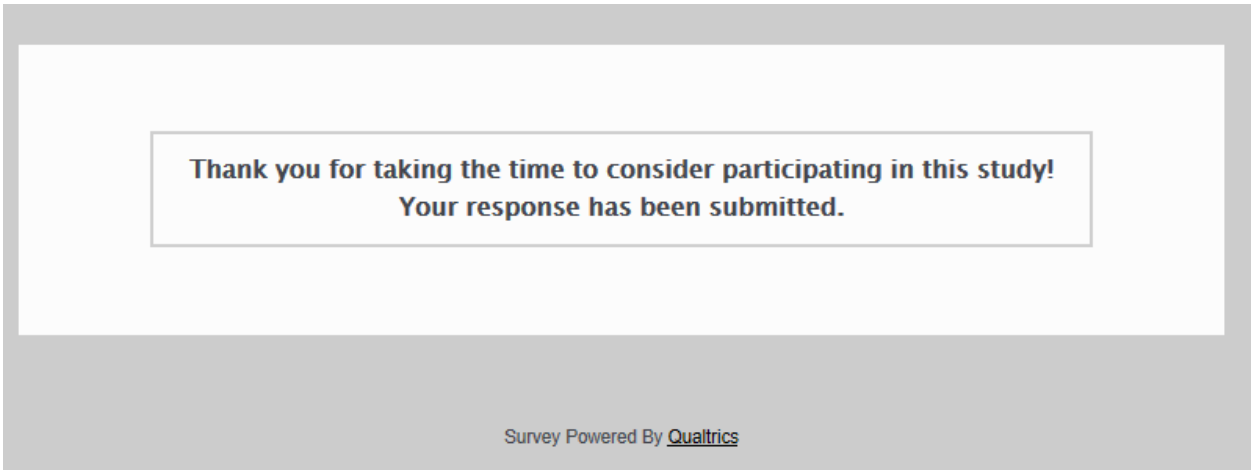
You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Christopher Leadem <christopher.leadem@med.fsu.edu>, Dean
HSC No. 2016.17504

Appendix Q: Non-Participant Thank you Screen



Appendix R: Initial USF MCOM Survey Participant Email

Subject: Class of 2016 Survey

Dear Fourth-year Students,

I am currently working on my Ph.D. dissertation research study (Pro#24281) and would like to ask for your help.

The study will investigate the relationship between the utilization of student support services and overall satisfaction in medical school. Participation in the study will involve completing a **short** online survey which should take less than 10 minutes.

Participation is voluntary. All responses will be completely **anonymous and strictly confidential**. The study is considered to be of minimal risk to participants. The survey is made up of three short sections: 1. Background Information, 2. Utilization of Support Services, and 3. Overall Satisfaction in Medical School.

Your participation in the study will support possible advancement of research regarding the needs of medical students, and data will be used to make suggestions for improving MCOM student services. Upon completion of the survey, you will have the **option** to submit your email address for a chance to win one of two $50 VISA gift cards **(your submission of an email address will not be linked to your survey responses).**

To participate in the study, please click the link below. The 1st page will contain an informed consent document.

Click here to take the survey.

Thank you,

Suzette S. Sookdeo, M.S.Ed
PhD Candidate, Curriculum and Instruction - Adult Education
University of South Florida

Appendix S: Reminder USF MCOM Survey Participant Email

Subject: REMINDER - Class of 2016 Survey

Dear Students,

Thank you so much to those of you who have already completed this survey!

For those of you who have not had the opportunity to take the survey as yet, the link below takes you to an anonymous**, short**, three-section questionnaire which should take about 10 minutes or less to complete.

This dissertation research study (Pro#24281) will investigate the relationship between the utilization of student support services and overall satisfaction in medical school. Participation is voluntary. All responses will be completely **anonymous and strictly confidential**. The study is considered to be of minimal risk to participants.

Your participation will support possible advancement of research regarding the needs of medical students and data will be used to make suggestions for improving MCOM student services. Upon completion of the survey, you will have the **option** to submit your email address for a chance to win one $50 VISA gift card **(your submission of an email address will not be linked to your survey responses).**

To participate in the study, please click the link below. The first page will contain an informed consent document.

Click here to take the survey.

Sincerely,

Suzette S. Sookdeo, M.S.Ed
Ph.D. Candidate, Curriculum and Instruction - Adult Education
University of South Florida

Appendix T: Initial FSU CoM Survey Participant Email

Subject: Class of 2016 Student Services Survey

Dear Fourth-year Students,

I am currently working on my Ph.D. dissertation research study (Pro#24281) and would like to ask for your help.

The study will investigate the relationship between the utilization of student support services and overall satisfaction in medical school. I've worked with FSU CoM students before and know how busy you are, so participation in the study will involve completing a **short** online survey which should take less than 10 minutes!

Participation is voluntary. All responses will be completely **anonymous and strictly confidential**. The study is considered to be of minimal risk to participants. The survey is made up of three short sections: 1. Background Information, 2. Utilization of Support Services, and 3. Overall Satisfaction in Medical School.

Your participation in the study will support possible advancement of research regarding the needs of medical students and data may be used to make suggestions for improving FSU CoM student services. Upon completion of the survey, you will have the **option** to submit your email address for a chance to win a $50 VISA gift card **(your submission of an email address will not be linked to your survey responses).**

To participate in the study, please click the link below. The 1st page will contain a detailed informed consent document.

Click here to take the survey.

Thank you,

Suzette S. Sookdeo, M.S.Ed
PhD Candidate, Curriculum and Instruction - Adult Education
University of South Florida

Appendix U: Reminder FSU CoM Survey Participant Email

Subject: REMINDER – Student Services Survey

Dear Students,

I wish to express my sincere gratitude to the 56 of you who took the time to complete this survey! Your participation has supported possible improvement of FSU CoM student services, and the advancement of research regarding the needs of medical students.

For those of you who would still like the opportunity to complete the survey and have the chance to win the $50 VISA gift card, the link below takes you to an **anonymous, confidential, short,** three-section questionnaire which should take about 10 minutes or less to complete.

This dissertation research study (Pro#24281) will investigate the relationship between the utilization of student support services and overall satisfaction in medical school.

To participate in the study, please click the link below. The first page will contain an informed consent document. Your submission of an email address, for the chance to win the gift card, will not be linked to your survey responses.

Click here to take the survey.

Thank you,

Suzette S. Sookdeo, M.S.Ed
Ph.D. Candidate, Curriculum and Instruction - Adult Education
University of South Florida