

**IS TRANSFER SHOCK A TREATABLE CONDITION FOR
UNDERREPRESENTED IN
MEDICINE STUDENTS TRANSFERRING TO A PREDOMINANTLY WHITE
INSTITUTION, WITH A GOAL OF MEDICAL SCHOOL ADMISSION?**

A Dissertation

by

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ABSTRACT

This dissertation examined the experiences of underrepresented-in-medicine transfer students studying in a Division I, research university in the South that is considered to be a predominantly White institution (PWI). These underrepresented-in-medicine transfer students were admitted to State University (SU) with the intent of completing the required prerequisite course work for admission to medical school. This qualitative case study delved into the personal experiences and recommendations of these students to determine what support systems are needed to alleviate if not eliminate the effects of transfer shock.

Existing literature has demonstrated that there is an increasing shortage of practicing physicians that could be classified as underrepresented-in-medicine. This shortage is ultimately a result of a shortage of underrepresented-in-medicine students admitted to medical schools, which is a direct result of attrition at the undergraduate level. Due to the fact that many prospective underrepresented-in-medicine students begin their higher education at the community college level, this case study focused on this specific group of students that had transferred to SU with the goal of admission to medical school and their personal experiences.

To understand the needs and experiences of these students, four African American and three Hispanic transfer students, across varying majors at SU were interviewed to examine their experiences and recommendations as they transitioned into and through their premedical track.

This study utilized a case study analysis and data collected through three

interviews each, which were structured using Schlossberg's Transition Theory of moving in, moving through and moving out. Throughout the interview process and subsequent analysis of their responses similar themes arose that led to the findings and recommendations of this case study. Some of these common themes included: experiencing transfer shock, concerns of funding their current and future education, sources of emotional and social support and cultural differences.

DEDICATION

To Staci, Madeline, and Charlotte

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Through all of the trials and tribulations of this entire process, there is no possible way I would have been able to complete this task without the blessings and opportunities that I have been afforded by my Lord and Savior Jesus Christ. As this stage of my life began to near completion and I was able to see an end in sight, and when I felt I had no control over the outcome, I consistently kept the guiding passage in my thoughts and prayers. “Trust in the Lord with all your heart and lean not on your own understanding; in all your ways submit to him, and he will make your paths straight.” – Proverbs 3:5-6.

I am eternally grateful to my committee for having faith in my abilities and especially their patience to help me start from scratch on a new study. I would have never made it through this accomplishment without their expertise and guidance. It is only with the experience and encouragement of my Chair, Dr. Glenda Musoba and committee members, Dr. Jim Herman, Dr. Kelli Peck-Parrott and Dr. Dave Parrott that I was able to complete this task. I have held so much respect for Dr. Herman from my undergraduate experience to working on a professional level at the Veterinary School after my undergraduate career. When deciding on an external member, Dr. Herman was my first choice, and I’m extremely blessed that he accepted to participate on my committee. It means so much to me that Dr. Parrott and Dr. Peck-Parrott would stay on my committee even after leaving the university and making a major career change, moving to Florida. This shows both of your dedication and willingness to help others complete their dreams, no matter the circumstance. You are both are amazing at your

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Contributors

This work was supervised and analyzed by a dissertation committee consisting of Professor Glenda Musoba as Chair and Committee Members Professor Kelli Peck-Parrott and Professor David Parrott of the Department of Education Administration and Professor James Herman of the Department of Veterinary Physiology and Pharmacology.

All other work conducted for the dissertation was completed by the student independently.

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NOMENCLATURE

AAMC	Association of American Medical Colleges
BPM	Biomedical Premedical Major
GPA	Grade Point Average
HBCU	Historically Black Colleges and Universities
HSM	Health Science Major
JAMP	Joint Admission Medical Program
MCAT	Medical College Admission Test
PAO	Professional Advising Office
PWI	Predominantly White Institution
ROTC	Reserve Officers' Training Corps
SI	Supplemental Instruction
STEM	Science, Technology, Engineering and Mathematics
SU	State University

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CHAPTER I

INTRODUCTION

Today, economic restraints, family commitments, and a lack of academic preparedness propel many high school graduates to enroll in the community college system prior to transferring to a four-year university. These unsuspecting students may receive a rude awakening upon transferring to the four-year university level, as a large percentage will experience what is known as *transfer shock* (Young & Litzler, 2013). Students in the fields of science, technology, engineering, and mathematics (STEM), as well as students in the premedical fields, find the experience exponentially worse due to the transition from community college science- and math-based courses to the often rigorous and difficult courses at the university level. This transfer shock is demonstrated by a drop in the student's first-semester posttransfer grade point average (GPA) when compared to pretransfer GPA. Young and Litzler (2013) found that a much greater proportion of underrepresented-in-medicine students, including those classified as ethnic minorities, nontraditional, or low-income, begin their academic careers at the community college level and experience transfer shock upon attending four-year universities.

This drop in GPA and the negative experience at the university level lead to transfer student attrition, with many of these students leaving the STEM fields of study or the university as a whole (Lockwood, Hunt, Matlack, & Kelley, 2013). Ultimately, as the number of students in the STEM and premedical programs declines, especially with regard to those who are underrepresented in medicine, the applicant pool for medical school becomes less diverse. With a lack of qualified underrepresented-in-medicine

students matriculating to medical school, the ethnic imbalance of students becomes even more exponentially apparent. Because such a small percentage of underrepresented-in-medicine students graduate to become practicing physicians, the largest percentage of physicians are White and Asian and go into private practice, specialized fields, or suburban hospitals (Fischbach & Hunt, 1999). This phenomenon is leaving a void in at-risk urban, rural, and lower-socioeconomic areas. Many underrepresented-in-medicine physicians are more likely to settle in their home communities or similar communities, which are often urban or lower-socioeconomic areas (Fischbach & Hunt, 1999, p. 1243).

Purpose

A vast amount of literature discusses student persistence and transfer shock (Ishitani, 2008; Cejda et al., 1998; Johnson, 2005; Laanan, 2004). Much of the research focuses on underrepresented-in-medicine student attrition, with recommendations on how to remedy the situation (Seidman, 2005; Cohen & Brawer, 2008). A great deal of research on transfer student attrition in the STEM and premedical health fields can also be found (Hirst, Bolduc, Liotta, & Packard, 2014; Jackson, 2013; Packard, Tuladhar, & Lee, 2013). Some current studies focus specifically on ethnically underrepresented-in-medicine students in the STEM and premedical health fields (Hurtado, Newman, Tran, & Chang, 2010). Yet very little research exists on underrepresented-in-medicine transfer students who major in the premedical health field. This trend will likely continue, if not grow worse, since so many first-time college students, many of whom are underrepresented in medicine, begin their academic careers at community colleges. Research into this specific area should offer insight into the possible causes of

underrepresented-in-medicine transfer student attrition prior to application and matriculation into medical school, as well as recommend changes or programs that could benefit this group of students.

Research Questions

The research questions for this project were the following:

- How do underrepresented-in-medicine transfer students attending a predominantly White university enrolled in a premedical undergraduate program perceive their educational environment, and what are their perceptions of the services provided by the university to ensure their academic success?
- According to underrepresented-in-medicine transfer students, what services must be in place for these students to succeed at a predominantly White university enrolled in a premedical undergraduate program?

Broader Education Context

Current literature indicates that the United States' educational system is in disrepair and needs major reform (Turgut, 2013; Mehta, 2013). The country is losing ground in education at a global level; most importantly in the sciences (West, 2012). In recent international rankings, the United States ranked thirteenth in science literacy and eighteenth in mathematics literacy out of the participating thirty-three Organisation for Economic Co-operation and Development countries (National Center for Education Statistics, 2009.) These scores are average to below average on the global scale, but as U.S. Secretary of Education Arne Duncan stated, "Being average in reading and science—and below average in math—is not nearly good enough in a knowledge

economy where scientific and technological literacy is so central to sustaining innovation and international competitiveness” (Herbert, 2011, p. 12). Attempts have been made to reform K–12 education through acts of the U.S. Congress, such as the 2001 No Child Left Behind Act intended to close the socioeconomic achievement gap, but over a decade later this act needs revision (Hewitt, 2011). Similarly, state accountability policy at the higher-education level has focused on improving college graduation rates. In 2006 Congress held hearings to determine why students lacked interest in learning the hard sciences or following a career path in the scientific fields, and at that time some legislators said the American science pipeline is “leakier than warped rubber tubing” (Chang, Cerna, Han, & Saenz, 2008).

The United States’ educational system is not only quite inefficient in educating prospective employees but increasingly expensive, adding to a national crisis of student loan debt. Many students cannot repay their loans because they never earned the credentials to obtain a job that pays enough. In 2011 national student debt surpassed national consumer debt, and in 2012 it went over one trillion dollars. The average individual student debt exceeds \$27,000 (Ross, 2013).

Lack of Health-Care Providers and Significance of the Research

The demographics of the public school system have changed drastically to become much more diverse, but the trend is not following suit at the college level (Yates, 2008). This disparity in diversity is only amplified as students move from their undergraduate degrees to the professional level. As the American Association of Medical Colleges (AAMC) matriculant report for the entering class of 2012 shows, 19,519

students were admitted to medical schools, and while 56% were identified as White, only 15% would be identified as underrepresented-in-medicine students (AAMC, 2013). This lack of diversity in professional medical schools compared to the general population is causing a serious shortage of health-care providers in high-need areas in medicine—namely, general practice. This shortage is even more apparent in urban, very rural, and low-income areas. The medically underserved Rio Grande Valley in Texas is a perfect example (Thompson et al., 2003).

More research is needed. This study seeks to contribute to the existing literature on the higher-education retention and graduation success of underrepresented-in-medicine transfer student populations, as well as add to the literature regarding performance in undergraduate, science-based premedical programs.

The Case Study

This case study took place at a state university (SU) in the South that is classified as a predominantly White institution (PWI), Division I research university. The research topic is of national concern, so the findings may apply to similar institutions, but limitations may exist when drawing broad comparisons to colleges and universities of differing classifications.

The research was based on majors having potential medical school applicants. Part of the sample was gathered from SU's Professional Advising Office (PAO) database of students who plan on matriculating to a professional medical program via the Joint Admissions Medical Program (JAMP). The Texas legislature created the JAMP to support and encourage highly qualified, economically disadvantaged students pursuing a

medical education (JAMP, 2015). The PAO allowed the use of this database, which by design contained only those SU students classified as being of underrepresented-in-medicine ethnicities. Many of the traditional premedical majors on campus encourage students to interact with the PAO in preparation for their application process to medical school. The PAO database did not specifically state whether they were transfer or native students. This study also utilized a snowball recruitment method that allowed committed participants to reach out to other underrepresented-in-medicine transfer students meeting the criteria for this case study. The majority of SU students who matriculate to medical school are of White and Asian classification, while the numbers of American Indian, Black, and Hispanic students are much lower. The numbers at the national level mirror that of SU.

Researcher's Relationship to the Problem

Because this is a qualitative study, it is important to disclose the pathway that inspired my own interest in this research. I graduated from a very small and academically insufficient Division 2A high school without a college advisor. Although my high school GPA was very high, due to financial circumstances it was much more practical for me to attend a community college. I excelled academically at the community college level and began planning my prerequisite course requirements for medical school.

Like many children, I grew up as a fan of my state's flagship university, and my goal was to transfer there, complete my undergraduate degree in a premedical major, and take the next step of applying to medical school. Because of a lack of knowledge and

advising, as my associate degree graduation date approached I missed the flagship university's application deadline. I decided to attend Southwest State University instead so that I might be admitted to the flagship university the following semester. I began taking upper-level science courses at Southwest State University and succeeded academically. My progression from high school, to community college, to the university level went smoothly, and no transfer shock occurred.

With better planning and advising, I applied to multiple universities and was admitted to a few major universities in the state, including the flagship university and SU. Having never seen SU, I decided to visit friends near the campus to learn more. I fell in love with SU and decided to attend there instead of transferring to the flagship university. The very qualities that attracted me to SU could potentially be the source of the issues causing attrition in its underrepresented-in-medicine students. As a White man, I unintentionally or subconsciously felt a sense of belonging at this PWI. The rankings of the university, which is very well known for its academic rigor and acceptance rates to professional schools, add to the prestige of attending and can lead to a sense of entitlement. Failing to grasp the challenges I would face, I felt confident that I would fall in line with every other student in the premedical field and instantly succeed. Many students do so, possibly because of their strong academic backgrounds, which I lacked.

I experienced transfer shock during my first semester by posting the quintessential one-point drop from my pretransfer GPA—going from a 3.8 overall to a 2.8. This rude awakening led me to reconsider my past academic choices, my current

abilities and learning style, and my future career goals. I fought my way through my undergraduate degree, taking a year off to reassess my academics and my future and finally completing a Bachelor of Science degree in a biomedical premedical major (BPM) in December 2000. However, the damage was already done. My GPA proved insufficient for medical school, so I began looking for a new career.

I was fortunate to receive a job offer as an academic advisor for the BPM program that I had just completed, and I maintained that job for the next twelve years and became interested in this field of research. As an academic advisor, I was personally involved with undergraduate students in premedical fields who aspired to attend medical school after completing their degrees. The BPM degree offers articulation agreements with many community colleges throughout the state in which students completing all prerequisite common-body-of-knowledge courses at their community college and maintaining at least a 3.6 GPA will be automatically admitted to the BPM program. It was through working with these students that I began to focus on the idea of transfer shock, which seemed to affect nearly every transfer student entering the major.

Delimitations

This research addresses a very specific group of transfer students; therefore, it would most likely not be applicable to native students beginning their college careers at SU. Native students have time to adjust to the academic rigors of the university and thus avoid the transfer shock experience.

This qualitative case study sampled current students who were maintaining grades adequate for their premedical major, but some students possibly did not have

strong enough grades for medical school admission. It could not survey those students who experienced attrition and either changed majors out of the premedical field or voluntarily left the university altogether. Instead, it attempted to gauge the feelings, experiences, challenges, recommendations, and regrets of those who remained in their premedical major.

Many premedical students applying to medical school take advantage of the PAO to streamline the application process. The PAO works with any current SU student who is applying to a professional program, but not all students are required to use these services. Utilizing the PAO database to filter the ethnicities of the students enabled the researcher to contact prospective participants who met the research criteria but not qualified students who did not use the PAO.

Definition of Terms

Attrition: Occurs when a college student drops out of a program or college. Personal attributes, family support or lack thereof, social influence, financial matters, quality of instruction, level of interaction with peers and faculty, level of academic preparation, or university fit, among other variables, can be causative factors (Angulo-Ruiz & Pergelova, 2013).

BPM: Biomedical premedical major in the College of Science at SU.

HSM: Health science major in the College of Health at SU.

Native students: Students who enter a four-year university as first-year students, as opposed to matriculating from another institution (Glass & Harrington, 2002).

Premedical curriculum track: Students are considered to be following a premedical curriculum track when they are required to complete very specific prerequisite courses prior to admission, with medical school being the ultimate goal. Not all students in this study might be considered to be on a traditional premedical track.

PAO: The Professional Advising Office at SU aids and advises students during the process of graduate and professional school admission, including but not limited to postbaccalaureate graduate programs and pharmacy, dental, physical therapy, and medical schools.

Retention: Occurs when a college student maintains sufficient academic standing each semester and ultimately graduates (Hunn, 2014).

STEM: The undergraduate fields of study in the areas of science, technology, engineering, and math.

SU: State University.

Transfer shock: Signified by a drop in GPA, usually during the first semester, when a student transfers from the community college level to the four-year university level (Hills, 1965).

Transfer student: For the purpose of this study, a student is classified as a transfer when he or she is entering SU for the first time but has previously attended another postsecondary institution at the undergraduate level. This could be a community college or another four-year institution. This does not include an institution's own graduates working on their postgraduate education.

Underrepresented in medicine: Used by the AAMA to describe medical students and prospective physicians whose ethnicities are underrepresented. This group includes undergraduate college students who classify themselves as African American, Latina/o, or American Indian.

Underrepresented-in-medicine transfer student: The adapted description, for the purpose of this study, of the AAMA's description of medical students and prospective physicians whose ethnicities are underrepresented—specifically, undergraduate college students who transferred from a previous institution and who classify themselves as African American, Latina/o, or American Indian.

CHAPTER II

GENERAL RETENTION, ATTRITION, AND PERSISTENCE

A vast number of studies on college student persistence, retention, and attrition have attempted to find the root cause of why a large percentage of students leave college. The main goal of these studies is to hone in on student success and retention and find remedies for these high attrition rates. Because this is a multifaceted problem, it has been researched from many angles. As one of the foremost researchers in college student attrition, Tinto (1993) has found that it usually occurs in two ways: either by academic dismissal or voluntary withdrawal. He stated that the “individual departure from institutions of higher education arises from several major causes or roots. These have been described here as intention, commitment, adjustment, difficulty, congruence, isolation, obligations, and finances” (p. 81). Tinto has maintained that voluntary attrition is attributable to a lack of academic or social integration, or *fit*, between the student and the institution.

Many studies, building off Tinto’s (1975) and Bean’s (1980) work, and later Bean and Metzner (1985) have focused on fit as one of the major causes of attrition from a university (Nora & Cabrera, 1996). Fit is defined by Cabrera, Nora, and Castaneda (1993) as both *student-environment* fit and *student-institution* fit, as well as *involvement theory*, in which a student feels committed to a university or believes he or she has made a successful match with the university. More specifically, a student’s fit and satisfaction with the college of choice can be explained by a “psychosocial” perception of a campus where the student feels comfortable and accepted (Nora, 2004).

Grebennikov and Shah (2012) suggested that one of the most prevalent factors causing attrition is professors' and advisors' failure to define and market a course of study. The students may feel they did not know exactly what they were getting into, and even at the course level, "the course wasn't what they expected" (p. 228). Universities could remedy this phenomenon by crafting better descriptions of courses, majors, and expectations through staff and orientation programs that bring prospective students in contact with current students to help them navigate general campus information more effectively (Mayhew, Vanderlinden, & Kim, 2010).

One of the most common areas of research focuses on attrition caused by a lack of academic preparedness or previous poor academic performance as demonstrated by grade point ratio (Tinto, 1993; Willcoxson, Cotter, & Joy, 2011; Johnson, 2008). Even beyond the initial orientation, which can set the stage for success or failure, is the first-year experience, which results in greater attrition rates; however, over half the cases of attrition occur during the later years of students' academic tenures (Willcoxson et al., 2011).

On the other side of the coin, some case studies concentrate on *positive transfer*, in which a student withdraws from a campus to search for a more challenging school, major, specialization, or academic fit (Heilbronner, Connell, Dobyms, & Reis, 2010). Rummel, Acton, Costello, and Pielow (1999) concluded that students may seek out a new school for many reasons, including a preferred class size or a more appropriate academic environment, but not because of deficient academic performance.

General Retention Research for Minorities

Research in retention and attrition has been ongoing since the early twentieth century, but the modeling has become much more specialized and detailed in the past few decades due to the large disparity in underrepresented students dropping out of college. The recent focus has been on finding ways to remedy this problem (Seidman, 2005). In the late 1970s, Walton (1979) suggested that the attrition of many underrepresented students could be prevented by utilizing role models, usually of the same ethnic background, as well as by delaying academic advancement until a student is prepared for the challenge. Thile and Matt (1995) furthered the research by examining an ethnic mentor undergraduate program that adapted Tinto's model of student development and incorporated role modeling and mentorship into a program for African American and Latino first-year students. The purpose is for students from multicultural backgrounds to bring their own specific skills, talents, educational styles, and characters to the program to help others realize their own personal and academic potential (Thile & Matt, 1995). Shotton, Oosahwe, and Cintrón (2007) pointed out that Native American student attrition rates are the highest nationally, and their findings show that peer-mentoring programs could lead to recovery in the academic arena and help students adjust to the university setting. Kemp's (1990) research recommended collaboration at the state and national levels through committees, special programs, and campus offices aimed at helping underrepresented students assimilate into the university setting and attain a better fit to ultimately increase retention.

Recent research demonstrates that although Hispanic student attrition remains at very high levels, recruitment efforts, as well as financial aid, put toward prospective Hispanic students have increased the retention rate in universities across the nation (Montalvo, 2013). Understanding and improving underrepresented students' retention is a many-sided problem, and a multipronged approach is required to solve it. Because this paper will focus on the transfer experience of underrepresented-in-medicine students, the general transfer research is reviewed next.

General Transfer Retention Research

The considerable amount of literature on transfer dropout and retention rates includes studies specifically aimed at finding the root cause or causes of community college transfer attrition (Hills, 1965; Cejda, Kaylor, & Rewey, 1998; Townsend, McNerny, & Arnold, 1993; Cohen & Brawer, 2008). The theory of transfer shock has been researched almost since the advent of the junior or community college, but Hills coined the term in 1965 and defined it as a drop in GPA after a student matriculates to a senior college (p. 202). Because most transfer students begin their educations at community colleges, Andreu (2002) built off of Tinto's (1975) and Bean's (1980) groundbreaking general retention research to help define the variables that relate to community college retention. Andreu identified financial aid, gender, ethnicity, and high school academic preparedness as factors affecting retention at the community college level. Tinto (1975) and Bean (1980) are the forerunners in researching general student retention, but in recent years Caison (2004) and Ishitani (2008) have built on this

research to address the causes and contributing factors specifically related to transfer students and other groups experiencing attrition.

Lack of Academic Preparation

It has been assumed that transfer attrition results from a lack of academic preparation caused by community colleges' lower academic rigor, and community colleges have been criticized and critiqued for setting prospective students up for failure (Grimes, 1997). Grimes has suggested that multiple factors can lead to higher attrition rates, with locus of control possibly playing a major factor. Additionally, although many students may be considered academically underprepared when they start college, those with lower remedial course scores and nonacademic issues may struggle more than those who have an external support system.

Cejda et al. (1998) has lent credence to the fact that transfer students' majors or academic fields could be directly related to their academic performance. These researchers used a two-by-four mixed-model ANOVA and post hoc tests to determine the significant difference in the pretransfer and the posttransfer GPA within a specific major. They found no statistical significance in the fine arts, the humanities, and the social sciences. However, they discovered a statistically significant decrease in GPA of transfer students majoring in the sciences and math (p. 7).

Transfer Shock

Recent research has contributed to the theory that social connectedness and college commitment lead to higher retention rates and graduation success (Allen, Robbins, Casillas, & Oh, 2008). The researchers used a hierarchical multinomial logistic

regression to determine that these factors, as well as academic performance, have a direct effect on the retention of transfer students. Laanan (2007) has researched the social and psychological aspects of transfer student attrition and has concluded that students' involvement in college life, their assimilation, and their ability to cope with culture shock is directly correlated to retention. Laanan (2004) used the Laanan-Transfer Students' Questionnaire, which administrators or student affairs departments at four-year colleges can employ to ascertain the transfer experience, to develop and guide this qualitative study. Barr and Sandeen (2009) went so far as to state that many transfer students drop out of four-year universities because of a lack of institutional investment, as universities are more concerned about course credits or transfer hours from community colleges than the students themselves.

Nontraditional Students

Students may be designated as "nontraditional" due to age, and according to Jinkins (2009), most students over the age of twenty-four would be considered nontraditional. Many of today's students are older than the typical eighteen-to-twenty-three-year-old demographic and possess different learning styles requiring a nontraditional and more content-based teaching method (Jinkins, 2009). Scott and Lewis (2011) have found that many of these older students experience hostility from fellow students and faculty due to their professional and life experiences, which might not fit into the typical pedagogical structure but assimilate more easily into an experiential teaching style. Community colleges may do a better job of teaching these students because they make up a higher percentage of the community college population.

Many students can be classified as nontraditional by being required to maintain employment, or perhaps their children or other family requirements take priority over educational commitments (Kim, Sax, Lee, & Hagedorn, 2010). Hart (2003) pointed out that older nontraditional students typically have families to take care of—either children of their own or elderly parents. Hart also indicated that because of employment requirements and in some cases previously acquired debt, these students are the most in need of financial aid and support but often the least likely to receive it (p. 100). Brock (2010) researched the costs and benefits of financial aid for nontraditional students and indicated a need to reform the current system, encouraging the use of financial aid to incentivize students not only to continue their educations but also to perform stronger academically.

STEM-Field Transfer Students

Many students who transfer from a community college to a four-year institution experience transfer shock and a posttransfer GPA drop, but the drop is much more notable in transfer students majoring in heavily science-based coursework in the STEM fields (Townley et. al, 2013). Townley et al. conducted a multiple regression analysis and found that this drop could be remedied by increasing students’ “sense of community” through mentoring and study groups that may emotionally engage students with the university. Packard, Gagnon, and Senas (2012) postulated that institutional issues that waste students’ time, money, and credit hours lead to the high attrition rates in STEM-field transfer students. This usually occurs as a result of the structure of many of the courses and the strict prerequisites required in the field. When transfer students are not

advised properly or are unable to get into a prerequisite course for multisequenced courses, they may lose credit hours, be forced to extend their degree plan, or have to pay for nonrequired courses.

West Texas A&M University has created a model that may increase retention by reaching out to regional community colleges and coordinating with their advising staff and faculty while also creating articulation agreements (Lockwood et al., 2013). In this model, the retention rates for transfer students have increased each year and have surpassed expectations. It may offer a model for other four-year institutions to follow.

Davies-Vollum and Greengrove (2010) have worked to remedy the attrition rates of nontraditional transfer students going into science majors by developing a gateway course to ease the transition. The course is based on a more practical application of the sciences these students likely encountered during their previous career or workforce experience prior to transferring. The gateway course methodology is designed to create learning communities, foster mentorships, and facilitate faculty advising to help these nontraditional students learn and then apply their knowledge in varying ways.

Underrepresented-in-Medicine Transfer Students

Over the past couple of decades, students' methods of entering four-year institutions have changed. The majority of students no longer start off as first-year students at the university but begin at the community college level and transfer to a four-year institution. Packard et al. (2013) has shown that underrepresented-in-medicine students are much more likely to begin their college career in this manner, but few actually make the transition to a four-year institution. In fact, Garcia (2010) found that

because this college-entry method is most common for lower-income students, most of whom are disproportionately underrepresented in medicine, many do not make the transfer. Bailey et. al (2006) used a weighted least-squares method to research aggregate data on community colleges and determine why attrition rates are so high nationally. Their significant results show that colleges with high percentages of women, minorities, and other nontraditional classifications experience much higher attrition rates (p. 511). Bailey et. al (2006) discovered a direct link to particular state laws and policies in higher education and recommended further research on these policies, which could increase the retention rates of women and other nontraditional students. Leinbach and Bailey (2006) studied Hispanic transfer students in New York and found that these students gain less credit than all other ethnic populations. This is even more amplified when looking at Hispanic immigrants, who also transfer to four-year institutions at much lower rates than native Hispanic students and advance to upper-level courses at lower rates than other ethnic populations (Leinbach & Bailey, 2006). A study of ethnically underrepresented students transferring from a community college or four-year university into a for-profit institution showed statistically significant differences based on ethnicity (Sheldon, 2009). This case study utilized logistic regression to determine that African American students were 47% more likely to make the transition to a for-profit institution than White students, and Hispanics were 15% more likely to make this move than White students. Research by Hagedorn, Chi, Cepeda, and McLain (2007), using ordinal regression, found that academic performance, transferability, and retention in Hispanic students increased significantly when they attended a school with a higher percentage of

Hispanics. A higher ratio of Hispanic faculty also significantly increased performance and transfer. This study was one of the few that looked at prediction factors rather than just noting different rates.

Transfer to Premed or STEM Fields for Underrepresented-in-Medicine Students

Reyes' (2011) research on women of color in the STEM fields has shown that the rate of this demographic starting at the community college level and matriculating to a four-year institution is very low, and the rate of women of color transferring into STEM fields is even lower. Women of color were classified as such by identifying themselves as African American, Native American, Hispanic, African-born, or Asian-born, and multiple choices were allowed. Through a series of interviews, Reyes (2011) discovered that many of the study participants felt a lack of connectedness to the school they had transferred into due to age, gender, and ethnicity differences between themselves and the university's general population but more specifically to the STEM field in which they were majoring.

Deil-Amen (2011) found that nontraditional students, including underrepresented-in-medicine students, at a PWI four-year university were retained and that socioacademic relationships with faculty proved to increase these retention rates. Deil-Amen (2011) has recommended using traditional quantitative modeling with qualitative social and academic integration to better understand students in this particular situation. McGonagle et. al (2014) examined a STEM transfer program affiliated with the University of Connecticut called STRONG-CT, which offers intervention for ethnically underrepresented students in STEM majors at the community college level

and guidance and assistance to those planning to transfer to STEM fields at the four-year level. The findings indicate that the ethnically underrepresented students participating in this mentoring program not only made a successful transfer to a four-year institution but also performed better than non-STRONG-CT participants, as well as other comparable students.

Given the current shortage of practicing physicians of color, there is a need to research where exactly the underrepresented-in-medicine students get lost in the process from high school to the end of the pipeline as practicing physicians. Significant evidence shows that attrition rates are higher for underrepresented-in-medicine students transferring to four-year institutions and entering the premedical and STEM fields compared to their White counterparts. Too little research in the field exists, using just a cross-section of underrepresented-in-medicine students, to make conclusions or recommendations about the attrition rates of such students and to offer potential solutions to the problem. Further research on the process of underrepresented-in-medicine students transferring into a Division I research university in a premedical major will help determine ways to increase retention and assist them with staying on track to attain admission to medical school. This qualitative study will examine the experiences of students involved in this situation, using their personal views and thoughts to summarize their overall experiences and to recommend potential solutions.

CHAPTER III

RESEARCH METHODS

The researcher used Schlossberg's transition theory to justify researching students transferring into the premedical track and majors at this large land-grant university. The research model duplicated Byrd's (2011) dissertation: "Starting With The End In Mind: A Case Study Of Under-represented, Teacher Education, Community College Transfers In A Predominantly White Institution." Using his model provided the most benefit to this qualitative study because it offered an in-depth look into the personal experiences of the students in the sample. Because this case study follows the same methodology and research methods for underrepresented-in-medicine students as Byrd's (2011), it was conducted within the College of Education at SU. This study used a sample of students following a premedical curriculum track in multiple majors, and it utilized similar methods and interview protocols.

Schlossberg, Waters, and Goodman (1995) believe that the process of adjusting to a life-changing event begins with its eventual incorporation into one's life or adaptation. These transitions can occur in three different forms: *anticipated*, *unanticipated*, and *nonevent* transitions. The anticipated is described as an expected or foreseeable change in one's life, while the unanticipated occurs when an unexpected event brings change. The nonevent transition takes place when an expected or foreseeable event does not occur (Schlossberg et al., 1995). A person can be affected by each of these transitions and can require a significant amount of time to adapt them into his or her life. Schlossberg et al. based this transition theory on what they determined to

be the four *S*'s that make up potential assets and liabilities: *situation, support, self, and strategies*. The situation variable addresses what exactly is happening during the transition, while the support factor addresses what help or assistance is available. The self variable addresses the fact that this transition is occurring in a person's life, and the strategies aspect addresses coping mechanisms that can be used to adjust to the transition.

The director of the PAO filtered the initial list of potential contacts, as she had agreed to assist with distributing the preliminary survey to potential research participants who met the research criteria. The PAO listserv consisted of all SU students who not only had expressed interest in applying to medical school but had registered for workshops and had begun the application process. This list was filtered to include only those students who fell into the specific criteria for this case study, which included those who had transferred to SU, who were classified by the definition of underrepresented in medicine, and who were following a premedical curriculum track.

These students were at varying points in their academic careers. Some were in their first semesters and experiencing transfer shock; others had adjusted to the transfer and were preparing to graduate and apply to professional schools. Some, due to their experiences, had decided against applying to medical school and were pursuing different postgraduate plans.

The purpose of the interview protocol was to determine these student's personal experiences, opinions, speculations, and recommendations during the first one-on-one meeting. The students in the sample were interviewed three times over one semester.

Seidman (2006) has recommended performing three interviews to cover various aspects of the participant's college career, including an initial interview focused on life history; a second interview detailing the participant's experiences; and finally, an interview reflecting on the meaning of those experiences (pp. 16–18). Using this structure in this study allowed the participant and the researcher to meet for the first time in person and begin a trusting relationship. Subsequent interviews enabled the researcher and the student to build further rapport and to discuss the student's transition experience into the four-year program. Seidman (2006) has also warned against using an overly structured interview guide, as it could lead the researcher to begin the interview process with preconceived notions or questions to which he or she expects particular answers. The researcher should approach the situation with open-ended questions that allow the participant to offer detail, guide the topics, and engage with a researcher who is not expecting to prove or disprove a hypothesis.

Maxwell (2005) has recommended using an interactive model that will allow the design variables to stretch and bend, which in turn could emphasize certain variables and adjust the focus depending on a participant's experiences. For this case study, using this “rubber band” approach allowed the researcher to attain more depth and perspective in the areas that contributed to the research questions.

Qualitative versus Quantitative

Quantitative research has been described to me as using a larger sample of the population that is a mile wide and an inch deep, while qualitative research is an inch wide but a mile deep. Although quantitative research can offer numeric averages for a

large population, it cannot provide a detailed study of the personal experiences of a very specific group of people. The qualitative process allows an in-depth look into each participant's experiences, opinions, speculations, and recommendations. The goal of this case study was to determine these students' perceptions of their particular situations and obtain insight into the services they felt had helped them succeed in their current environment. In this case, qualitative study allowed the participants to offer reasons for their progress—not just whether they had made progress.

Statement of the Research Questions

This study aimed to answer the questions: How do underrepresented at medicine transfer students attending a predominantly White university enrolled in a premedical undergraduate program perceive their educational environment, and what are their perceptions of the services provided by the university to ensure their academic success? According to the students, what services must be in place for these underrepresented in medicine transfer students to succeed at a predominantly White university enrolled in a premedical undergraduate program?

Theoretical Tradition

This case study utilized *phenomenology* as the theoretical tradition. Phenomenology as used in qualitative research attempts to identify and explore the subjective and personal experiences of the participants and avoids critically evaluating forms of social life (Schwandt, 2007). Merriam (1998) stated that in phenomenology “prior beliefs about a phenomenon of interest are temporarily put aside, or bracketed so as not to interfere with seeing or intuiting the elements of structure of the phenomenon”

(p. 16). This allows for the examination of consciousness itself, which offers the researcher an unadulterated view of the participants' experiences. Moustakas (1994) offered a similar description: "The challenge facing the human science researcher is to describe things in themselves, to permit what is before on to enter consciousness and be understood in its meanings and essences in the light of intuition and self-reflection. The process involves a blending of what is really present with what is imagined as present from the vantage point of people's meanings; thus a unity of the real and the ideal" (p. 27). Phenomenology considers the participant's interpretation to be the reality of the situation.

This detailed look at underrepresented-in-medicine transfer students at one university is a single-case study with multiple participants. Yin (2003) recommended a multicase study, stating that single-case studies can be risky because you are placing "all of your eggs in one basket" (p. 53). Despite Yin's warning, the single-case study offers much more insight and depth. While the single-case study has its dangers, having multiple participants in this study added breadth to the research.

This case study was conducted at SU, a PWI and a Division I research university in the South. Many majors at SU can act as preparatory degrees for students considering the premedical field, with the final goal of matriculating to a professional medical program. A number of these premedical majors offer the prerequisite coursework that U.S. medical schools require prior to application and admission. Although medical schools do not require students to enroll in a specific major, most students admitted to medical school have completed one of these heavily science-based premedical degrees.

SU offers two primary majors—the biomedical premedical major (BPM) and the health and science major (HSM)—that consist of premedical coursework and medical school prerequisites. The BPM contributes the highest number of matriculants to the state’s professional medical programs, with the HSM a close second. Because any student, regardless of major, could be taking the coursework and prerequisites considered part of a premedical curriculum track, this case study targeted all majors at SU.

In the fall semester of 2012, 1,919 transfer students were enrolled at SU. While 1,348 students were classified as White, there were 7 American Indian, 37 Black, and 305 Hispanic students. The classifications were displayed to demonstrate the disparity in representation of minority transfer students in contrast to their White counterparts. The classifications of Asian only, Native Hawaiian, international, unknown or not reported, and two or more/excluding Black were not included in these numbers because they do not fall under the definition of underrepresented in medicine.

The PAO is an academic advising department at SU that aids and advises students in the process of applying to professional schools, including pharmacy, dental, physician’s assistant, nursing, and medical schools. This office coordinates with the AAMC, the State Medical and Dental School Application Service, and the American Medical College Application Service to report statistics regarding the admission status of SU’s current and former students. The PAO 2012 medical school applicant pool reported 336 total applicants from SU, with 201 of those applicants admitted to medical school. Out of these 201 applicants, 131 came from the two largest premedical curriculum degrees: 71 came from the HSM and 60 came from the BPM. The agriculture science

major had 29 total admits. For the purpose of this case study, all potential medical school applicants were included in the sample, regardless of major.

Sample Selection

The participants were selected by utilizing the PAO's student database of all preprofessional applicants, including premedical, preveterinary, prepharmacy, prelaw, and more but was filtered by the PAO director to include only students who planned on applying specifically to medical school. This created a new database containing premedical students from all majors on campus who used the PAO's service. It described the demographic and academic details of each student, including ethnicity, gender, major, GPA, and more. Once the database was received and filtered to contain only students who met the specific criteria, the researcher sent a recruitment e-mail on February 18, 2015, to the underrepresented-in-medicine transfer students in the database. The content of the recruitment e-mail is included as Appendix A. It included the researcher's contact information and directions to follow if interested in participating, which included a brief description of this case study, directions on returning an attached preliminary survey to the researcher, and Institutional Review Board (IRB) clearance information.

The preliminary survey, included as Appendix B, was sent as an attachment to ninety-eight students' SU e-mail accounts in the PAO listserv. Eight e-mails were returned as failed deliveries. Within four days, three replies were received from students willing to participate who met the specific criteria. I created a database consisting of the participants' names, coded names, contact information, and all answers in their returned

preliminary surveys. A second e-mail was sent to academic advisors in various departments on February 23, 2015, in an attempt to meet the initial goal of ten participants. This e-mail was identical in content to the first, with the exception of the contact information included. Each e-mail stated that the advisor's information was taken from that particular department's database. Over the next week, three more students agreed to participate, all of whom came from the academic advisors' departmental databases. A final student was referred to the study by another participating student, utilizing snowball recruitment by participant referral. Information for these final four participants was added to the researcher's contact database. E-mails were sent to each of the seven participants to set up the first round of interviews.

The information required for this study included pre- and posttransfer GPAs, student race or ethnicity, gender, major, and academic progress. The study included transfer students from various majors who are classified as underrepresented-in-medicine students (African American, Hispanic, or Native American) and who intend to apply to medical school. The sample consisted of all students willing to participate, regardless of GPA. Some students had a lower GPA and were contemplating changing majors or opting out of applying to medical school, whereas some were excelling academically and preparing for the next step of medical school. The students opting out of applying to medical school proved to be a very valuable source for this study because they were able to recommend services that might have kept the goal of medical school within their reach.

This case study used *purposeful selection* to determine the sample. Maxwell (2005) noted at least five possible goals to keep in mind when using purposeful selection for sampling. First, deliberately select students who fall into the research category, as opposed to random sampling, which would include participants not intended for the study. Second, make sure the sample represents the entire range of variation instead of the average response in order to offer “maximum variation.” Third, select participants or situations that will test the theories of the phenomenon by providing results that are the opposite of what is expected. Fourth, attempt to compare the reasons for the differences between settings and individuals through multicase qualitative studies. This goal may not prove as useful in a small single-site study such as this one. Fifth, select a sample with whom the researcher will most likely be able to establish a trusting relationship (Maxwell, 2005). All of these goals, except for the fourth for the reason listed, proved ideal in this case study, as the researcher selected a specific group of participants meeting the criteria of underrepresented-in-medicine transfer students in a premedical major at a PWI. The second and third goals in particular tested some of the limitations of this case study by providing maximum variation and finding results that were opposite of what was expected. And finally, the fifth goal, building a trusting relationship, was crucial in obtaining honest and genuine answers from participants who may not otherwise have felt commonalities or similarities with the researcher. The first meeting initially established rapport as I explained my own experience as a transfer student to SU and a BPM graduate. This bond strengthened as I further detailed my advisor role and my sincere concern over the attrition rates of underrepresented transfer students who I

had personally worked with throughout my tenure. We also shared some common experiences regarding classes and professors, as these students were on the same track as I had been, and the premedical prerequisites remained the same. Offering details of my own struggles with the heavy science courses further bolstered empathy and mutual understanding by showing these participants that they were not alone in their challenges.

Reciprocity

The researcher benefited from the participation of these students who volunteered their experiences, opinions, and recommendations. It was explained to these students, prior to the case study, that their participation would bring them a sense of altruism and helpfulness toward future students rather than a direct benefit. The researcher told the participants that the study planned to use their ideas and recommendations to contribute information to the university about potential services it might offer to other students in this situation.

Researcher's Sample Management

Because I did not have direct access to academic records, I relied on academic advisors, directors, and deans of these academic units to disperse information, including the initial e-mail and preliminary survey. However, if they were unable to send the correspondence or preferred it to come directly from me, they were able to provide a database containing the contact information of students who met the specific research criteria to participate in this study. The assistant director of the PAO assisted in narrowing the search for students looking to matriculate to medical school. This person is also responsible for updating the admissions statistics each year for all colleges and

majors on campus for students admitted to medical school. The assistant dean of the BPM program and the associate dean of the HSM program assisted in distributing materials crucial to recruiting participants. I attained my goal of research participants by using the snowball recruitment method and recommendations from academic advisors in various majors across campus. After the initial e-mail was sent to potential participants, they began to reply, expressing their willingness to participate. The researcher then personally arranged interview times and locations. Using the interview protocol, the interview process commenced in late March 2015 and ended in early May 2015.

Positioning Myself as the Researcher

I bring both insider and outsider experiences to this study. My interest in this research began during my years as an academic advisor in the BPM program, during which I was required to run demographic reports on incoming students that would be used for recruitment and retention strategies. I began to notice the disparity between White students and underrepresented-in-medicine students entering the university's science-based premedical program—and not only newly admitted students from high school but smaller pools transferring from community colleges. The two largest majors designed specifically to meet premedical prerequisites, the BPM and the HSM, averaged only 25% underrepresented students in their native admissions criteria, while statewide demographics as of 2006 were 48.3% White and 51.7% non-White, with the Hispanic population percentage projected to increase at a rate higher than other ethnicities. In 2000, 58% of college and university students were classified as White, and 36.3% were classified as Black and Hispanic. By 2040, White students are projected to comprise just

28.7% of the college and university population, while Hispanic and Black students will comprise 50.9% and 8.1%, respectively. The demographics of the transfer students coming into the BPM and other premedical majors only compounded this realization. With such a small group of underrepresented-in-medicine students transferring to these programs, I became curious to know if their matriculation rates to medical school would be as low. I began researching and found this to be the case: the numbers for underrepresented-in-medicine students in medical schools are even more dismal than the demographics at the university level. With demographics shifting not only statewide but nationwide as well, there is a vast dearth of underrepresented-in-medicine students graduating from medical school and going into practice. Magnus and Mick (2000) pointed out a growing shortage of potential medical school students who are classified as underrepresented-in-medicine and who come from lower-socioeconomic backgrounds and communities. These communities have a disproportionate need for physicians, and underrepresented-in-medicine students are more likely to set up practices in their own communities or similar communities (p. 1997). This case study was developed to research the possible causes of attrition rates of underrepresented-in-medicine transfer students in the education process and offer solutions to the problem by utilizing the personal experiences of current students in this track.

As a former premedical academic advisor, I was fortunate to understand the daily operations, admissions standards, course requirements, advising practices, and goals of the program, as well as the prerequisites each student must complete prior to medical school application, the acceptable Medical College Admission Test (MCAT) scores for

application, and the medical school application itself. Additionally, as a transfer student and BPM graduate, I could relate to these students in the case study and offer an inside perspective. As I was no longer employed by the BPM program at the time of this study, I could offer an outsider perspective as someone who was not advising them academically or in any other fashion. Thus, they were more likely to speak openly about their premedical program as well as their overall experience.

Emergent Design

Due to the nature of this qualitative study, flexibility in the interviewing process was required. The study was guided by the students' personal experiences, and a rigidly structured interview process might not have allowed them to be completely transparent or to discuss all aspects of their experience, including areas I had not considered. Because questions evolved throughout this case study, *emergent design* was used for the interview process. It allowed adaptation to various situations and prevented the researcher from getting stuck in a path that might limit the responsiveness of the students (Patton, 2002). As this case study used Schlossberg's transition theory model, emergent design allowed the researcher to customize the interview process to each student's reactions or observations as he or she worked through the transition process of the four *S*'s (Schlossberg et al., 1995).

Schlossberg's transition theory model was utilized to frame the questions and analysis of the participants' experiences as they moved into their new educational environment and adjusted to new levels of support, or the lack thereof, in social life and academics; the presence or absence of transfer shock or other societal issues; and finally,

their strategies for possible solutions to their situations (Schlossberg et al., 1995). By using Yin's (2003) single-case study, the researcher was able to learn much more about the transition process of each participant in the details of the four *S*'s. Patton's (2002) recommendation to use open-ended questions allowed the participants to freely express their opinions and provide in-depth answers unconstrained by time limits or researcher expectations. Additionally, Patton recommended using the more flexible format of informal conversation during and after the interview, as it provided a less stressful environment where topics flowed naturally and lead to tangents of pertinent information (p. 347). I requested that each participant write down any additional questions, experiences, and recommendations that arose after each interview and bring these notes to their next interview for further inquiry.

Limitations

The research in this qualitative case study was specific to SU and drew from a very small sample of the population. It would be most applicable to other large land-grant research universities. Due to the study's focus on underrepresented-in-medicine transfer students in the premedical field at SU, a comparable college would need to be a PWI. Underrepresented-in-medicine students' experiences would most likely differ from the White majority's or from underrepresented students' at a minority-serving institution.

Because underrepresented-in-medicine students comprised the participants of this study, some might have been hesitant to openly interact with or to answer questions from a White man. The fact that the line of questioning contained specific details related to

race or ethnicity and academics could have further limited responses. The researcher approached the interview process by building rapport with these students and by fully listening to the responses with impartiality, earnest authenticity, and honesty. The researcher also utilized multiple interviews to establish a relationship over time.

It was made clear to the participants that the researcher was a graduate student with no formal authority over them or any role in their experiences. This facilitated an eagerness and willingness to help a fellow student, as opposed to a faculty or staff member or administrator, which could have caused some hesitation to speak freely and openly. As a former transfer student in the premedical field, I had some familiarity with the characteristics of the participants.

Although the research strategy had limitations because I am a White man, I was aware of the situation and the possibility that some research participants might lack trust and withhold information. I made every effort to mitigate this.

Data Collection Techniques

The minimum number of participants for this study was not met, despite utilizing the PAO's student database, the snowball recruitment method, and referrals from academic advisors. However, because Byrd (2011) was able to gain such detail in his case study from only seven participants, this sample was deemed sufficient for this replicated study. Three of the students were chosen from the e-mail replies sent to the PAO listserv, while the remaining four came from the snowball recruitment method and advisor referrals.

Once the sample of volunteers was filtered down to underrepresented-in-medicine transfer students with the goal of applying to medical school, they were invited to participate in three interview sessions via a follow up e-mail from the researcher. Once these students were identified and agreed to participate in the study, each was contacted to set up the first interview.

The participants were asked to set aside sixty minutes for each of the three interviews. The researcher allowed one to two weeks between each interview to allow the semester to progress and to give the participants ample opportunity to process the questions and add any additional comments at the next interview. Interview times were based on the participants' schedules and availability. The interviews were conducted in semipublic locations, including campus library group study rooms as well as boardrooms in campus office buildings. An interview protocol was utilized to maintain structure and guide the research questions.

The resulting answers on the interview protocol helped the researcher build a knowledge base of the students, including a snapshot of their academics, basic experiences, perspectives, and expectations. This interview protocol enabled the researcher to discover the detailed background of each participant as well as build rapport and trust. This interview protocol is included as Appendix C was adapted from Byrd's to meet the specific participants Byrd (2011). Because many of the questions were open ended, the interviews did not always take the entire hour, but this kept the students from feeling rushed, and they were able to reflect and provide additional answers if needed.

Each initial interview began by allowing the participant to read the consent form and ask any questions about it or the research project in general. The consent form is included as Appendix D. During the first interview, the students were allowed to elucidate at length and add further depth to topics they felt were integral to their experiences. The participants were invited to keep notes for each interview. The second interview delved further into the initial questions, assessed the participants' progress thus far in the semester, and addressed any additional comments or questions that arose after the initial interview. The final interview tied up any remaining questions, issues, or indirect topics that arose from the previous two interviews, as well as covered further semester progress, notes from the previous two meetings, and final comments and recommendations.

Upon completion of the interviews, each digital file containing an interview was stored on a private drive on a locked work computer. No identifiers were added to digital file titles as they retained the file number from the recorder and remained numerical. After saving each file to the locked computer, the file was deleted from the recording device. Upon completion of all the interviews, the digital recordings were transcribed and analyzed.

As the case study utilized the interview protocol design following Byrd (2011) and Schlossberg's research model guided by the four *S*'s of situation, support, self, and strategies, I then categorized the responses and coded the similarities between them (Schlossberg et al., 1995). I maintained consistency in questioning by following the interview protocol but also probed, when appropriate, off the protocol. I did receive

responses with commonalities and similarities in certain areas, including the transfer experience, university academic support services, nonacademic support systems, and campus climate. Also, some participants offered recommendations. I used the constant comparative method recommended by Lincoln and Guba (1985) to find common threads within the participants' responses, which were then coded by category or topic and compared across the group of participants. This method allowed me to further compare the common experiences between various students in a similar situation to determine potential common themes.

Methodology Summary

The methodology for this qualitative study varied throughout the process. The research model was guided by Schlossberg's transition theory. An interactive model was used to promote flexibility in design, allowing interactions with each student to adapt to a new or different variable. Purposeful selection was used to select students who met the specific research criteria. Emergent design was utilized throughout the interview process to allow answers to lead to new questions and to keep the interview process from becoming too rigid.

CHAPTER IV

RESULTS

This chapter presents an analysis of the data collected for this case study. It includes coded biographical data of the research participants' interviews. While analyzing the conversations, I discerned certain themes beginning to surface, each with multiple and varying subthemes. Each theme had its own commonalities and differences and included: academic support systems on campus or the lack thereof, the challenges of financing a college education, personal support systems and leading the way, adaptation to a new environment, and the attempt to fit into campus life.

Population, Sample, and Participants

The participants (Table 4.1) for this case study included four men and three women. Four students were African American, and three students were Hispanic. Most of this basic participant information was collected using the preliminary survey. It was necessary to change students' names to protect their identities.

Table 4.1

Participant Biographical Background Summary

Coded name	Race/ethnicity	Age	Gender	Major	Transfer institution
Brad	African American	20	Male	Nutrition	Community college
Carl	African American	20	Male	Biological and environmental sciences	Community college
Clair	Hispanic	20	Female	Nutrition	Four-year university
David	African American	20	Male	Food science	Four-year university
Jenny	Hispanic	20	Female	Allied health	Community college
Marco	Hispanic	20	Male	Food science	Community college
Mary	African American	20	Female	Allied health	Four-year university

Table 4.2 shows the participant's involvement in campus activities and organizations and off-campus activities and organizations, as well as the campus support services utilized while attending SU.

Table 4.2

Participant Involvement Summary

Coded name	State university activities and organizations	Pretransfer activities and organizations	On-campus support systems	Off-campus support systems
Brad	Cultural, major related, and professional field organization, ROTC	None	Tutoring provided by the ROTC academic advisor	Private tutoring company
Carl	Two campus experience organizations, ROTC, two music performance organizations, one Greek leadership organization, one cultural Greek leadership organization (chair), two cultural organizations (executive position)	None	Library resources, departmental test databases, tutoring provided by the ROTC	Personal tutoring sessions
Clair	Major related and professional field organization	None	Study skills course during first semester	None
David	None	Premedical society	Student Counseling Center, supplemental instruction (SI), Writing Center, Career Center PAO	Private tutoring company
Jenny	Major related and two campus experience organizations	Honor society	Academic advisor, PAO	Private tutoring company
Marco	Major related organization	Honor society, cultural organization	Academic advisor, Student Counseling Center, Career Center	None
Mary	Cultural organization for prehealth students	None	Supplemental instruction (SI), departmental tutoring, PAO academic advisor	None

Table 4.3 provides a snapshot of the participant’s information on grants, scholarships, work study, loans, and other means of funding a college education. The financial support information details funding methods at SU as well as at the student’s pretransfer institution.

Table 4.3

Participant Financial Support Summary

Coded name	Work at pretransfer school in hrs./week	Work on SU campus in hrs./week	Financial support at pretransfer school	Financial support at SU
Brad	Yes 10–15	Yes 10–15	Private-donor scholarship	Two private-donor scholarships
Carl	Yes 10–15	Yes 10–15	Music performance scholarship	ROTC, private-donor scholarship
Clair	Yes 10–15	Yes 10–15	None	None
David	Yes 10–15	Yes 10–15	Pell Grant	Subsidized and unsubsidized loans, Pell Grant, work study
Jenny	Yes 10–15	Yes 10–15	Merit-based scholarship, cultural scholarship	SU scholarship, military service exemption, Pell Grant
Marco	Yes 10–15	Yes 10–15	Subsidized and unsubsidized loans	Subsidized and unsubsidized loans, private-donor scholarships
Mary	Yes 10–15	Yes 10–15	High school scholarships, Pell Grant	High school scholarships, Pell Grant

Table 4.4 details the participant’s family educational background and support levels expressed in the familial setting. The level of priority a student’s parents or family unit placed on education was an integral variable in his or her experiences. This table allows a snapshot of the highest level of education attained by the participant’s parents.

Table 4.4

Participant Family Education Background and Support Summary

Coded name	Parent education level	Family support system
Brad	Father: some college Mother: bachelor’s degree	Parents and other family members, some family members attended SU
Carl	Father: eighth grade Mother: bachelor’s degree	Mother
Clair	Father: doctor of medicine Mother: some college	Father preferred her stay closer to home, mother is supportive
David	Father: high school Mother: bachelor’s degree	Parents and other family members, some family members attended SU
Jenny	Father: some college Mother: some college	Parents and other family members, some family members attended SU
Marco	Father: elementary school Mother: middle school	Parents live outside the U.S. but are supportive
Mary	Father: master’s degree Mother: bachelor’s degree	Parents and other family members, some family members attended SU

Case Site Summary

The site selected for this case study involved SU students from varying majors throughout the university’s many colleges. Students with the goal of medical school admission are not bound to a specific major or college, but they are required to complete very specific prerequisite courses (Table 4.5) prior to admission at the professional level.

Table 4.5***Medical School Prerequisite Course Requirements***

Course topic	SU course equivalency requirement
English (6 hrs.)	English composition and any literature or technical writing
Statistics (3 hrs.)	Statistics courses may vary
Intro biology with labs (8 hrs.)	Biology 1 (3 hr. class and 1 hr. lab) and Biology 2 (3 hr. class and 1 hr. lab)
Inorganic chemistry with labs (8 hrs.)	Chemistry 1 (3 hr. class and 1 hr. lab) and Chemistry 2 (3 hr. class and 1 hr. lab)
Organic chemistry with labs (8 hrs.)	Organic Chemistry 1 (4 total hrs. of class and lab) and Organic Chemistry 2 (4 total hrs. of class and lab)
Physics with labs (8 hrs.)	Physics 1 (4 total hrs. of class and lab) and Physics 2 (4 total hrs. of class and lab)
Upper-level biology (6 hrs.)	Junior or senior-level biology courses may vary
Biochemistry (3 hrs.)	Biochemistry 1 (lab not required)

Participant Summaries

Brad, an African American man, had transferred to SU from a community college. He received scholarships but also had to maintain employment. He participated in many extracurricular activities and organizations, including the ROTC, and held leadership positions in several. Previous family members of Brad's had attended SU, and he was following in their footsteps. His older brother, who had also participated in the ROTC, had graduated from SU and was a major source of inspiration. Brad was still planning on applying to medical school.

Carl, an African American man, had a similar situation to Brad in that he had transferred to SU from a community college. Although he received scholarships, he also had to maintain employment. He participated in various extracurricular activities and organizations, including the ROTC, and assumed a leadership role in many of these

organizations. His goals were to succeed for his family and to set an example for others who might follow in his path. He was planning to apply to a professional school program in the medical field but no longer medical school.

Clair, a Hispanic woman, had transferred to SU from another four-year university. She was not in need of scholarships to fund her education, but she did maintain employment. She participated in a couple of student organizations. Clair had transferred to SU even though she was encouraged to stay closer to her family and hometown. She had experienced transfer shock and was in an academic recovery period at the time of the interview. She was planning on applying to medical school if her academics recovered, but she was also crafting a backup plan.

David, an African American man, had transferred to SU from another four-year university. He was in a unique position because he had initially transferred to SU on a student-athlete scholarship, but due to academic difficulties, he lost the scholarship and no longer participated in sports at the university level. He had, however, received additional scholarships and was also required to maintain employment. He had experienced transfer shock and was in academic recovery at the time of the interviews. His goal was to prove to his family, friends, and his hometown that he could succeed at a PWI. Although he initially wanted to play sports at the professional level, he then discovered he needed to prove he could succeed in another field. He was planning on applying to medical school if his academics recovered, but he was also looking into other options.

Jenny, a Hispanic woman, had transferred to SU from a community college. She had received multiple scholarships to fund her education, one for her high academic performance, but she also maintained employment. She participated in a couple of student organizations. Jenny made a smooth transition, but she had experienced some transfer shock during her first semester. She was succeeding academically and was accepted into a program that will grant her automatic admission to a state professional medical school if she maintains a predetermined GPA and MCAT score.

Marco, a Hispanic man, had transferred to SU from a community college. He did not receive scholarships and was funding his education with subsidized and unsubsidized student loans and employment. He participated in one student organization. Marco was in a unique situation because he had completed high school in Mexico, where his family still resided, and he missed his friends from his previous school and his old support systems. He was excelling academically and was no longer applying to medical school but was planning to apply to graduate school in the field of nutrition.

Mary, an African American woman, had transferred to SU from another four-year university. She received a scholarship and grants to fund her education on the basis of her high academic performance, but she also maintained employment. She participated in one student organization. Mary had experienced some transfer shock during her first semester but overall had transitioned smoothly. She was succeeding academically and still planned to apply to medical school. Although these participants each met the criteria for this case study, being an underrepresented-in-medicine transfer student with an initial goal of medical school admission, their family backgrounds, support systems, academic

preparation and many facets of their personalities were each very unique. Throughout the process of the interview process, many of the participants began to discuss and demonstrate many common themes. These themes that arose, were grouped and analyzed to get a clearer picture of their experience at SU.

Studying Eight Days a Week and Academic Support: Will I Ever Graduate?

Although this theme shared many common threads and subthemes, answers varied from participant to participant. Most commonly, participants said they experienced a noticeable increase in course load and course rigor after transferring to SU. It has been argued that a pretransfer institution's ranking may determine posttransfer success or failure (Lee & Frank, 1990). It has also been proposed that students with insufficient high school academic backgrounds may not be ready to enter a four-year college and should only consider community college admission. Niu (2013) found that students who graduated from affluent high schools performed much better academically at the university level and made a much smoother transfer to college than those who attended poor high schools. Many participants in Niu's (2013) study said that although they survived community college, they still lacked the fundamental knowledge base, time management skills, and overall maturity to maintain their academics at the university level. The researcher believed that each of these students had transferred from either a community college or a smaller, lower-ranking college or university. Some students who had transferred from the community college level performed better, academically, than others who had transferred from a four-year university.

Rough wakeup call: Transfer shock does exist. Transfer shock was explained to the participants in this case study, according to the definition offered by Hills (1965) and Young and Litzler (2013), as the academic shock and subsequent drop in GPA from the pretransfer school to the current school. All of the students in this study experienced transfer shock during their first semester—some more so than others. In most cases, transfer shock was caused by multiple and often shared factors. On multiple occasions a subtheme surfaced during the interview process regarding the students' insufficient preparations for transferring to SU, especially concerning time management skills and adequate study habits. Some of the students believed this lack of preparation was their fault because they had never learned how to study or manage their time. Some felt they were responsible for learning these skills, while others thought their high school or transferring institution should have taught these skills. Some were of the opinion that SU had misled them upon their transfer by failing to warn or advise them of the increased academic rigor and course load. This led to discussions about how being unprepared might have kept them from feeling like they fit into the campus mold. Most of the participants believed in a mix of these causal factors. The students admitted that a lack of preparation had been apparent throughout their educational careers because of learning inadequate practices in high school and pretransfer. While some agreed that transfer shock was apparent, they also alluded that such shock could be a result of culture shock or a significant change from the environment in which they had been raised or from which they had transferred. Although this description falls under the theme of fit,

cultural shock or differences could potentially cause academic transfer shock. Clair expressed these sentiments about her initial experience during her first semester at SU:

Oh yeah, my first semester was really bad. I ended up on academic probation. I ended up dropping a class, I ended up dropping my Biology 2 class. And then I did really bad in my nutrition class, I got a D. I didn't get any F's and the rest I got B's and C's, but don't really remember, so yeah, it was a huge difference, especially the biology class. I got a B in the first part at my pretransfer university, and everybody warned me that it was going to be different. At my pretransfer university, it was a breeze. The TAs helped you and would tell you what would be on the test for the next week, and here it was like you have no idea what to expect. (personal communication, March 30, 2015)

Brad reiterated the sentiment about pre- and posttransfer course loads:

I still feel like I'm learning because like I said, going through the community college wasn't too, too hard. Then after transferring, it like, it just got real, and I'm still learning like what and how to study, and what works for me, and how to study best for the things that I have for the class. (personal communication, April 9, 2015)

Marco felt that it was the responsibility of the community college to prepare him for the transfer, as he plainly stated:

I don't think that they really prepared me academically for the transfer. I knew that some things would change, but I don't think that it prepared me. (personal communication, March 27, 2015)

Although Marco had experienced transfer shock, he was able to recover and make the necessary adjustments to succeed. He could potentially have been admitted to medical school, but he explained that he had changed his career goal to graduate studies due to finding a new passion:

I'm from outside of the country, so I finished my high school there, and then I moved here. That's when I didn't know what to do or what I wanted to do so I started taking classes. I then decided that I wanted to do chemistry. But I quickly found that I didn't want to do chemistry as a major, and that is when I found out about food science. I found that it is more of an applied science, and I could apply the chemistry and the nutrition. I didn't decide until after high school and even community college. I actually took a year off after high school, outside of the country, instead of going directly to university there. I took that year off, because there, you don't go and do basics, you go directly into what you want to do. I didn't know and didn't want to waste time and money. (personal communication, March 27, 2015)

Carl provided one example of a participant who felt that both his community college and SU failed to prepare him for the transfer and the increase in academic rigor. He said he felt betrayed by the lack of advice on both sides:

I honestly don't feel like the community college prepared me for the university. I feel that the workload is very, very different. In the community college, we would have one worksheet a day, which could add a little more padding to the grade. Extra quizzes, but here at SU we have one test every three or four weeks,

and we may have three to four tests per class so if you end up doing bad on one of those test, you don't have anything to help you, to cushion that grade. But at community college, you have all of that extra help to keep you grades up. At SU, if you do bad on one test, it can pretty much sink you for the entire semester. They never tell you that at orientation or at the beginning of the class here.

(personal communication, March 30, 2015)

Brad likewise expressed his belief that SU did a disservice to transfer students by admitting them without warning of the potential academic increase:

It's such a large school that they can't be concerned about every student. It's pretty much sink or swim once you get here. I wasn't expecting it. (personal communication, April 9, 2015)

Not all participants experienced noticeable transfer shock. Mary had felt a little more prepared upon transferring to SU. Her three older sisters had also attended SU and had warned her about the challenges involved. She had still experienced a level of transfer shock but knew how to study, as she explained:

I think for the most part it, I mean, what the transfer taught me was not that, you know, the other university didn't really prepare me so much for the difficulty here. But I can say that over there I learned how to study because I knew what I wanted to do by the time I got into there. You know, go to med school. So when I was there, I just taught myself freshman year that I need to study and how to study. (personal communication, April 10, 2015)

A guiding light: Academic advisor assistance and professor involvement. As the job title explains, the majority of an academic advisor's job entails guiding students academically throughout their college careers. In many situations the job requires advising or guiding other facets of a student's life beyond simple coursework. According to the participants in this case study, academic advisors were a great resource, helping them acclimate to the transfer and steering them down the right path to achieve their career goals. Many departments on campus employ full-time staff as academic advisors, while some utilize faculty as academic advisors, and other departments use a variation of faculty and staff advisors. All of the participants' comments regarding departmental advisors were positive. Clair noted:

I met with my advisor when I transferred in, since the departments, you know, approve who they admit, and he was very, extremely helpful. He was helpful getting me in and also for warning; you know warning or letting me know how difficult it would be in classes anyways. You know, he kept telling me like so much harder it would be. I didn't know it would be that much harder. (personal communication, March 30, 2015)

David had actually started meeting with his prospective academic advisor before transferring to SU to make sure he fulfilled all the requirements, and he said he still talked with his academic advisor multiple times per semester:

So, I met with my academic advisor, and I pretty much begged him to let me transfer into his major. He's part of the sole reason why I'm here because he allowed that to happen. He gave me some requirements to fulfill in order to

transfer, and I went back to my university, and I fulfilled those requirements. Yeah, he's been very helpful in my life, and I thank him for that. Like, I can honestly say, he's probably the sole reason why I am here, it's because of him. (personal communication, March 26, 2015)

The participants' responses were mixed regarding faculty members' willingness to assist and accessibility. Many participants discussed academic advising issues with faculty, but they more commonly sought assistance from faculty members about particular courses they were taking. Some of the participants mentioned meeting with professors and instructors during office hours, during private meetings, and before or after class meeting times. Students based their opinions about professors' investment in their students' careers on their level of availability. On multiple occasions Marco expressed his belief that some of his professors at SU showed less concern with the welfare of students in their classes than had the professors at his pretransfer institution:

My expectation for SU is that it is one of the biggest and best universities in Texas and the U.S. And also when I thought of SU, I thought that the teachers must be or would be really good, on how they teach and what they do. I've had some really bad experiences that showed that they weren't, and I was expecting some of the teachers to be more prepared and that they would know how to teach. And it wasn't like that. Many of them were better in the community college. I wasn't expecting them to be that bad. In statistics, in the way she teaches, even as I was paying attention she knows a lot and she knows the field, but she cannot get it across to the class in a way that we can understand it. Maybe

they think they are explaining it because they know it, but it is not getting across. I did also see it at the community college, but I think that I just expected that from the community college. I didn't expect that from SU because it is such a big and good college that is known for academics and great education. It was just easier to learn in the community college for that reason, but it is harder here. You need someone to be able to teach you the concepts. Sometimes it is in the bigger classes but can be small too. Right now I'm in a food chemistry class, and I don't like the way he teaches because he will talk about all of these things that are not on the slides, and maybe we will learn about it later, but it does not go with what he is teaching. (personal communication, April 8, 2015)

Some of the participants, whether they were succeeding in their classes or needed to discuss options for improvement, received encouragement from their professors. Carl explained his use of professor contact even in very large classroom settings:

I do consult with the profs, but most of the time, with the classes being so big and them hearing so many excuses throughout the years, they are pretty noncompliant. But it does help from time to time to talk with them. But the classes are so big it is hard to. (personal communication, April 7, 2015)

David also offered an example of approaching his professor:

I make my presence known, and I let that professor see me every day. And he can get to know my face. Even last semester, I did not do so well on a test. So I made like a high C, but I went to the prof hours, and she was helping learn what I didn't understand. And she was like, yeah, I see you come to class, and that was

cool because that was one of the three-hundred-person classes. That made me feel really good because she recognized me out of three hundred people. She recommended different study habits and watching the slides and other details. Regardless, it is nice that the professors are there and are willing to help.

(personal communication, April 3, 2015)

Included in the bill: Campus support services. SU offers many on-campus support systems for academic, as well as nonacademic, issues, and all participants discussed the subtheme of campus support. These various support systems, which include the Student Counseling Center, the PAO and Career Center, departmental-sponsored tutoring, ROTC tutoring, the Academic Success Center, and supplemental instruction (SI), received mixed reviews from the students in this study. Some of these services benefited the students who knew about them, while some students felt they provided no benefit or support. The Academic Success Center offers academic coaches, tutoring within the center, and the Transfer Student Program, which is specifically designed to acclimate transfer students to the university and the community, and these services received positive comments. The Academic Success Center coordinates with departments to offer SI, which received more negative comments. Due to academic insufficiency, Clair was required to take an additional course through the Academic Success Center after her first semester at SU, as she explained:

I took a class after being on academic probation. They made me do a kind of, help you with your study habits class, once a week for three or four weeks. It may have been through Student Counseling Center, but I'm pretty sure it was the

Academic Success Center. They have classes that they usually make freshmen take, but as a transfer it was for a limited time for just a few classes. This class also required me to go to some SIs. I went to a few SIs for BIOL 2—that was the only one because the other classes didn't offer them. That's what is frustrating is they want you to do better, but they don't have help in the classes, that you like, that you need help in. (personal communication, March 30, 2015)

Clair went on to describe her experience with SI in a later interview:

I mean SI sessions here don't really help as much. (personal communication, April 9, 2015)

Brad expressed a similar experience, as the ROTC required SI attendance:

I have gone to SI, it was for a few of my classes, when they even offered it for my classes. And there is no guarantee they will offer an SI. But they, like, they force you to go. (personal communication, March 27, 2015)

Marco had heard from others that the SI sessions were not very beneficial, and he said that his experience bore that out:

I feel that I really understand science so I never felt the need to go to an SI. I did go to one in the evening for organic chem. It was just a waste of time, and I didn't feel like it was helpful for me. So I just studied by myself, and I understood it. I didn't really need to use it. They are also giving SIs for biochemistry, and I hear about a lot of complaints that the student teaching is not very good and doesn't know the material or can't teach it. They also feel like it is a waste of their time. (personal communication, March 27, 2015)

The Student Counseling Center is a multifaceted organization, housed in the Division of Student Affairs, that offers a wide spectrum of services: career counseling, crisis intervention, learning disability and attention deficit/hyperactivity disorder screening, personal counseling, psychiatric services, self-help, outreach, consultation, stress management and biofeedback training, and testing services. The Student Counseling Center supports the academic and personal development of students through service, training, and research. Some of the participants used this service as a means of coping with stress. As David explained:

I was really down yesterday because I bombed a test yesterday. I didn't expect it to be that bad. I knew I didn't do well, but I didn't think that I did that bad. It's the lowest grade I've ever made in college. I just tell myself that I've been in worse situations, which I really haven't been, but I just tell myself that—I can get through it. I've been through hard times and gotten past it. I've been working with a counselor at the counseling center, you know just to have someone to talk things through. About not making the team again and so forth. (personal communication, April 3, 2015)

Marco said that he had visited the counseling center to talk to someone about feeling alone:

Sometimes I wish, like I tell myself, that I want to have friends or because I had friends at the community college, and I would like to go back up and see them all the time. My first semester I kept wanting to leave here and drive back up to see

my friends. It does help having someone to talk to at the counseling center, but I would like to have friends again. (personal communication, April 8, 2015)

The PAO offers academic advice and counseling to students preparing to apply to professional and graduate programs. This office plays a crucial role for students planning on applying to medical school because it maintains all their records and statistics and advises students on requirements. The PAO offers workshops on the application process, letters of recommendation, required prerequisites, and MCAT preparation. Some of the participants used the PAO's help to plan their career path to medical school. As Jenny stated:

I joined the premed society in my first year here, and so they were really big on the PAO. They kept saying you need to go talk to the premed advisor, you need to get into the PAO, you know, stuff like that. (personal communication, March 27, 2015)

David said that he not only used many of the PAO's services but also found employment when he sought help there:

I've used the university writing center, I've been to the career center, went to the PAO and that's actually how I got my job. I was just there, and I didn't even have to apply. I was just going in to get advice, and one of the advisers offered me a job right there in her office. (personal communication, April 3, 2015)

The ROTC tutoring program is tailored to accommodate the time-intensive schedules of the ROTC students. Brad said he had mixed reviews about the mandatory tutoring time required by the ROTC:

Our first year, you had to study from 7:30 to 9:30 each night. It's called study something, study hall maybe, and it was mandatory. If you didn't study within those hours you had to attend it afterwards, no matter what, unless you got like a pass saying that you studied like for a test or something. But it was definitely not catered towards your study habits. Also, I mean, people have done it, people were successful and stuff. It just didn't work with my study habits. (personal communication, April 14, 2015)

Carl seemed much more positive about his experience with the ROTC's mandatory study time and tutoring. However, he had completed his ROTC requirements and expressed disappointment at no longer being able to use the service:

I cannot use the resources in the ROTC since I am now out, and that hurts me a lot. It is something that I used, and it definitely made a difference and was very helpful. I did not use off-campus sources for tutoring. I haven't used the departmental tutors or others. The ROTC was definitely the most helpful at making me study, but it's gone now. (personal communication, April 7, 2015)

Student athletes participating in National Collegiate Athletic Association sports at SU are also required to register with a tutor and meet with an academic advisor in the athletic department, but many fail to take full advantage of this opportunity. David offered his experience from his time as a student athlete:

They did offer the tutors, and it was just me being lazy because I went to see the guy. I don't know if it's the same guy anymore. He was our athletic academic adviser, and he was the one who set up tutors, and I went there one day because I

needed a tutor for every class. And I've never been the one that kind of needed a tutor because hell, in high school, I was tutoring kids. I graduated fifth in my class so I was always kind of known as the smart guy. But man, I needed a tutor for everything, and I went there, and I think he wasn't there, he was out for lunch one day. I was just too lazy to go back because playing football here is a full-time job. It really is, and a lot of people don't know it's a full-time job. So it was only on certain days where I could really go see him to try to put that in there, and it was just me being lazy so I didn't take advantage of it. (personal communication, March 26, 2015)

Some of the participants mentioned that university personnel proved integral in advising them to seek out campus support services. Clair stated:

Have not used the Career Center, Student Counseling Center. Just the academic advisor, who told me about these services, I just haven't gone. (personal communication, March 30, 2015)

Brad also related the advice from his ROTC advisors:

They force us to study in the ROTC, and so I guess that was kind of helpful, but they also did encourage us to go to on-campus tutoring if we needed it. They told us about SI, the academic center and everything, but they also said, if you have to, get off-campus help. Just go anywhere to get help that we needed to do well academically. (personal communication, March 27, 2015)

Although some of these on-campus services share some overlap in their mission and specialization, the ultimate goal of each is to offer support to all students at SU. Some

students, however, have avoided these offerings due to bad advice from fellow students, as David explained:

I heard about resources and like I said, it just kind of went through one ear and out the other because like I said, my focus was so different when I got here. I was too busy getting to know people and having fun, and most of my so-called friends told me that there was no need to waste my time on campus stuff. Go off campus and because you're paying them, they help more. (personal communication, March 26, 2015)

Mary, who felt influenced by other students and her sisters, who had also attended SU, stated:

I have heard from a lot of students in premed that you don't really need the campus stuff, unless you get in trouble, and it may or may not help. My sisters said they never had to use the campus support, and they made it through fine. (personal communication, April 10, 2015)

Not included in the bill: I paid so much, but now must pay for help off campus. Although many on-campus support services are available, some students may feel they are inadequate or not targeted to specific courses. Referrals from other students may lead them to seek private or for-profit tutoring and support services, as some of the participants in this study did. Jenny admitted that although some great services on campus existed, the off-campus resources could sometimes be more beneficial:

I didn't really just take advantage of like the things here, the tutoring things here was okay. I haven't really gotten a great experience at the on-campus tutoring,

but off-campus tutoring is great and very helpful. I really like my advisers and stuff they're really good and the PAO, obviously is really good. But I would rather pay for the tutoring service off campus. (personal communication, April 8, 2015)

Clair expressed a similar experience with on-campus tutoring and believed the money spent for off-campus tutoring to be worth it:

I really haven't had any luck with departmental tutoring. So I know my dad doesn't mind me getting tutoring off campus or with a private tutor. He'll pay for it. (personal communication, April 9, 2015)

David also made use of these off-campus tutoring services, he said:

Well, yeah, I went to one of the off-campus tutoring companies this semester. I didn't try it last semester, but this semester I tried it out because I kind of wanted to get a jump on organic chem. I did go, and I scored the highest that I have on this test, but I don't think it was of totally the company. What I learned at the tutoring service was stuff I already knew. It was just a good study session for me. Now they did teach me a lot of other stuff. I did learn new things, but it wasn't stuff that was going to be on the exams. It was stuff, the new stuff that I learned and kind of like the tricks that they helped me to learn and know. The knowledge was stuff my professor specifically said wasn't going to be on the test so it was like, oh man, this is great information but it's not even going to be on this test. But the stuff they did teach me that was going to be on his test, I already knew so it was a good refresher. I just learned a lot more than from sitting in class or

campus tutors, or for sure more than if I would have just studied. (personal communication, April 26, 2015)

Ticket to Ride: Financial Support, or How Much Is This Going to Cost Me?

For the study participants, funding their education was important, and it added to the emotional toll and stress of attending school. Given the pressure to succeed and the ever-increasing costs to attend college, this was a concern in most of the interviews. All of the students in this study required some sort of financial support in the form of grants, scholarships, student loans, work study, or employment.

I need more money: Most of my school is paid for, but I still have more to pay. This subtheme demonstrated that the current student loan crisis is in full swing. Even with *gift aid* funding, most students will still go further into debt attempting to pay the remaining costs of attending college. Grants and scholarships are considered gift aid because they do not have to be repaid (U.S. Department of Education, 2015). Grants are usually based on financial need according to a student's or his or her parents' taxable income, while scholarships are usually based on merit for academic performance or service (U.S. Department of Education, 2015).

One major benefit of scholarships and grants is the fact that they require no repayment as long as all terms and stipulations, such as maintaining a specific GPA or full-time status, are met. These gift aid funding options vary in amount of payment and duration. The students receiving these funds were grateful that these options relieved them of having to take out exorbitant loans.

Four of the students had the majority of their tuition and fees covered by grants and scholarships. Carl was one of these, but he also had to maintain employment to meet his living expenses at SU, as he explained:

And cost in general is pretty high as well. SU is very expensive, and I could have gone somewhere cheaper, I could have saved money. It's all of the other additional things that you have to pay for. I have to work. Money is definitely an issue. (personal communication, March 30, 2015)

Two of the students received some supplemental support from grants or scholarships but not enough to cover the remainder of their educational costs. Both relied on federal subsidized and unsubsidized loans. Marco had taken out such loans because completing his degree on time was extremely important to him. He said he realized that repaying the loans would perhaps take years and that he would have no guarantee of a job upon graduation:

I have to have a job because I'm only able to take out loans, and I know they will take forever to pay back, and I don't want to feel like I'm wasting time and money. I wish I wouldn't have this debt, but I will for my undergrad degree here, and I plan to go on, so that means more loans. (personal communication, April 15, 2015)

Only one student in the study, Clair, did not mention stress or trepidation regarding postcollege debt. She did express guilt that her father was paying for her entire education although she was not succeeding academically or meeting his expectations:

My dad wanted me to get good grades before I went elsewhere and before he started paying a lot of money, for me to go to a bigger university. I did before I came to SU, but now I'm not making the grades, and he might think he's paying for that. I don't get financial aid or anything, my dad is a physician, so I probably wouldn't get anything anyway. (personal communication, March 30, 2015)

Clair mentioned that her job had likely no significant effect on her total college expenses, but she felt it could relieve some of the financial burden on her father by covering a few personal expenses:

I mean I do work, and I feel really bad because my dad is paying for everything, tuition and books. And even though I do have a job, it's not like it's really enough to help him. It's maybe enough to buy groceries, or it may help a little. (personal communication, April 9, 2015)

Every other student in this study needed to have a job to meet expenses, whether work study or a job on or off campus. Jenny stated:

The only thing was like the money; my parents were like, are we going to be able to afford this? And stuff like that but other than that, they were supportive. (personal communication, March 27, 2015)

Some of the students were able to attain employment in areas that benefited their academic and future careers. Carl and Brad were employed by the ROTC, which offered public exposure to campus officials and visiting dignitaries as well as many prospective students considering the same career paths. They both mentioned the benefits of working on campus, as most campus offices operate within a typical 8:00 a.m.–5:00 p.m. business

day, leaving time to study in the evenings. Off-campus jobs often require working nights or weekends, as well as the inconvenience of having to leave campus. Leaving campus is an issue for many students living in dorms, especially if they do not have personal transportation or a designated parking space to which they can return.

Carl enjoyed working on campus, although attending a college close to home and living with family would have been less expensive, as he explained:

SU is very expensive, and if I would have gone to my local college, it would have been cheaper. I could have saved money and stayed at home. Going to my grandma's for dinner instead of going out to eat or paying for a meal plan.

Money is definitely an issue. It is great working for the ROTC because it keeps me on campus; I get to meet lots of great people, and I don't have to drive off campus to work. (personal communication, March 30, 2015)

David had only great things to say about his on-campus job:

Yeah and my mom was pushing a job on me and I mean, I had always had friends that, you know, went to other universities all over the state and a lot of them worked on campus. I've never had an on-campus job until I came here you know. I worked four, five different places since I was seventeen. So never a job on campus and to be honest, this isn't the highest-paying job I've ever had, but it's the best job I've ever had. I love what I do. There's never a day that I don't—that I said I don't wanna go to work. (personal communication, March 26, 2015)

With A Little Help from My Friends: Emotional and Spiritual Support

This theme analyzes the familial and friendship support or driving forces that encourage these students to succeed. Most of the participants had positive experiences throughout their college careers before transferring to SU. Some negative feelings or memories did arise throughout the interview process. These subthemes focused on their family backgrounds and situations, from their academically developing years throughout the transfer process to the present.

Sources of support. Three of the seven students had family members who had attended SU, which helped them feel a sense of belonging or legacy. These relationships ranged from those as close as siblings to grandparents and distant cousins. Other students shared that their parents' unfamiliarity with the college experience as a whole, as well as SU specifically, gave them some fear or trepidation about leaving home. The participants generally received support and enthusiasm from their parents upon transferring to such an acclaimed institution of higher education. Brad explained:

My brother actually came here. He's two years older than I am. He's in the ROTC as well. We came down to visit him. He's already been going here for like a couple of months in the ROTC and so, we came down for a football game—I think it was actually SU Saturday when he was trying to decide where he wanted to go. And I just, I don't know, I fell in love with the atmosphere and the university. (personal communication, March 27, 2015)

To some of the participants' parents, SU and its local community seemed foreign, and they knew little about the university except for its national rankings and its

demographics as a PWI. Clair's father, for instance, expressed disappointment that she chose to transfer to SU because he knew that SU would be more expensive, culturally different, and much more rigorous than her previous college at home. Clair explained:

I definitely wanted to transfer from where I was from. My dad graduated from a different school, from [flagship], so he wasn't too excited that I wanted to come here. He wanted me to apply to [flagship]. (personal communication, March 30, 2015)

Marco, whose parents lived in Mexico, discussed being in the United States without any family nearby. Although his parents had only a minimal formal education, he appeared to have his priorities straight with regard to time management and studying skills and requirements. He did experience some transfer shock upon entering SU but said his ability to adapt due to his high school and community college background aided him:

Being from a different country and being alone, with my family still living outside of the country, it took quite a bit of adjusting and self-discipline. My parents are always there for me and support what I want to do, but they, unfortunately, cannot be of much help with money and paying for school. (personal communication, March 27, 2015)

Carl described his motivation of wanting to pave the way for other minority students who might attend SU:

So if you ever feel lost at SU, don't lose sight of what is going to be waiting for you at the end. Don't lose sight of the SU alumni support. Being able to partake of the alumni support, because it works for minorities, just as it works for White

men and White women or anything like that so keep on pushing. Just because the band doesn't play all the same tunes in the stands that other schools do, doesn't mean we can't have a good time here. It's a little different, but you know we just have to keep on pushing. (personal communication, April 15, 2015)

David was employed in the PAO office, which he said offered him financial, academic, and emotional support:

I've never felt belittled. I can just be myself, and I'm just another person like them. They make me feel important. They give me food, and the director has bought me clothes before. It's nice; it's like our own little family. A benefit is that you are always the first person to know about an opportunity. (personal communication, April 3, 2015)

Sources of motivation. Some of the participants, especially Carl and David, said their need to succeed was driven by their desire to create a better future not only for themselves but, ultimately, for their mothers. They expressed affection for their mothers and wanted to show them that they had raised hard-working and accomplished sons. Carl described how he wanted to support his mother financially and begin a new legacy of successful men in his family:

Me personally, I really consider myself being here for my mother. I have older brothers, and they have all been incarcerated. My mother always had to work or was working to improve the situation. So I just want to give her something, something that none of her other children have given her. So I just want to do it in a big way by graduating from SU rather than, you know, I could have gone to

a historically Black college or university (HBCU). But I wanted to give her a SU degree, so that's kept me motivated and kept me moving along through this process. It will keep me going through the rest of this to the next step. (personal communication, April 15, 2015)

David also expressed his maternal support:

I could tell my mom anything. She may not be a source of financial support, but she is there for all other support. I kind of hinted to her that I wanted to go back to SU but never told her what I was doing by applying. My acceptance letter was sent to her house. (personal communication, April 3, 2015)

Consequently, these two participants disclosed that multiple close family members had either been to or were still in the prison system, and they strived to be leaders for their family, friends, and their race. Their determination to complete their college degrees and potentially medical school showed that with dedication and direction, one can escape negative influences. Carl expressed his hope to teach and inspire other students who may feel disadvantaged or lack direction when considering a higher education:

Personally, I feel as a minority, SU needs more people like us, to come in and go all the way through. SU is a great school, probably the best school around here. I know people probably pressure minorities to go to HBCUs, so they can be around people just like them, but it really says a lot about you and your character if you can go to an area or experience something different than what you experienced in high school and thrive and survive and actually do well. And it

will do wonders for you, for your character and for your personality and everything like that. (personal communication, April 15, 2015)

The participants did not feel that their parents' education levels negatively affected them. On the contrary, those whose parents had only minimal education levels were more inspired and driven to attain their undergraduate degrees and go to medical school. A parent having completed college still provided some motivation, as participants like Clair felt they were expected to graduate. Clair revealed that she felt she was disappointing her father, a physician, who had preferred she stay at the local college or attend the flagship university, as he had. The fact that she had experienced transfer shock and was subsequently placed on probation for a semester compounded the problem, as she described:

I've already put myself in that position academically, and now I'm trying to recover and it would be worse if I was disappointing my family. My dad would be really upset if I failed out. You know, because he succeeded and went to [flagship], where he thought I should have gone anyway. (personal communication, April 14, 2015)

Emotional stress and strain. One subtheme that arose while discussing support mechanisms was the ability to cope with the loneliness or depression caused by the distance from family and friends or a lack of enthusiasm for social activities. The three female participants compared their social activities and commonalities with their pretransfer friends to their social activities and friends after transferring. There were no major changes, with the exception of small personality differences in their new friends at

SU. They mentioned that most of their friends at SU were much more dedicated to their studies and less likely to lead them into negative extracurricular activities. All but two of the participants had made new friends, had stayed in touch with pretransfer friends who had also transferred to SU, or had at least joined social organizations to interact with new people. Brad and Carl described a similar method of making friends since they were both in the ROTC. They were forced to interact with the same people every day, and given the large number of ROTC members, they were able to find a close-knit group of friends to help them assimilate. They said it could be lonely at times, but they did not experience depression. On the other hand, David and Marco both experienced loneliness and depression and had reached out to campus support services for help. Marco, alone in the country with no familial support nearby, had left his small group of friends at his pretransfer school, which was too far to visit more than once or twice a semester. Marco described himself as an introvert who was unlikely to place himself in social situations or actively seek out new relationships. He had spoken with a counselor at the Student Counseling Center on a previous occasion and discussed his wish to find more emotional support:

Thinking about it now, I think that stress-wise it has affected me emotionally. I've been away from my family for a while with them in Mexico and me being here by myself and not having friends, it has been emotionally unstable. I've just wanted to go back and see my friends. The first semester I didn't have any friends and no one to hang out with, and now I'm talking to my classmates but still don't have anyone to go out and do something to get involved in. I don't feel

the need as much anymore to go back, but I feel like it was more for my friends because I have been away from my family for so long, I just missed having friends. (personal communication, March 27, 2015)

Similarly, David had confided in friends and employers about his loneliness and depression. He had spoken with the PAO and his professors and was referred to the Student Counseling Center, where he received counseling throughout the interview period. David described his situation and said he believed his depression possibly stemmed from his early experiences at SU. He had been a popular student athlete with many friends; a number of these he attributed to his status as an athlete. Upon experiencing transfer shock, his academics immediately suffered, and he lost his scholarships and the bulk of his funding as well as his athletic career. Forced to focus solely on academics, he felt neglected by his so-called friends because he was no longer an athlete. His depression resulted from failing academically, having few friends or means of support, and having to give up his lifetime goal of playing college sports. Weight gain and family issues, he said, had also injured his self-confidence:

I can also tell you that there are so many places to eat, and I have never been so tempted to eat as often and as much. Just eat bad. Living in Louisiana, they have awesome food, but I've never binged like I do here. It is so hard to do here. Last semester I actually gained fifty pounds. Not just because of the food, but I was also dealing with depression from not making the football team. I worked so hard to get in that shape to try out and then gained all of the weight when I didn't

make it. It just seemed like a waste of my time, so I just ate my way out of it.

(personal communication, April 3, 2015)

David had come to terms with the fact that although he would not graduate with a stellar GPA, he would succeed. He went on to state that one of his best coping methods was his close relationship with God:

Praying still helps more than anything. I can also tell myself that there are a lot of people that are doing worse than I am. That's not the best way to think but it helps me to know I'm in a better place than some other people may be. (personal communication, April 3, 2015)

We Can Work It Out: Fitting into Campus

This theme arose early in the interviews but was covered in much more detail over the entire interview process because it delved into the participants' campus experiences and their feelings of belonging as a whole. It developed into descriptions of how the students had pictured their experiences at SU prior to transferring versus how these events had actually turned out. Because the participants were classified as underrepresented-in-medicine by ethnicity and were attending a PWI, the discussions were guided in specific directions based on ethnicity. A few subthemes arose during the interview process.

Extracurricular activities. Experiences with extracurricular activities proved to be the first subtheme that arose during the interviewing process. Within their first semester of transferring to SU, all the students had realized that their academic workloads and curricular rigor had increased. They all said that they had attended SU to

provide an educational foundation for applying to medical school and that academics were their utmost priority. They had also come to see that the “other education” during college—the extracurricular activities—could be nearly as important. Prior to transferring, only three of the students had participated in any organizations or extracurricular activities. They generally believed this was because they had lived off campus, either with their parents or in a private residence, and had visited campus simply to attend classes and nothing more. The three students who had participated in organizations prior to transfer admitted that they were only minimally involved but wanted to add the activity to their resumes. Conversely, after transferring to SU, all the students participated in at least one extracurricular activity, and many participated in multiple. Unlike previously, they stayed actively involved and often held officer or executive positions. This may be because these students had at one point, if not currently, lived on the actual campus and had attended a multiple-day orientation upon transferring to SU.

Brad and Carl were very involved in the ROTC and took part in a number of student organizations. Brad offered his opinion during multiple interviews:

I feel like the ROTC in general, like, has been a very influential factor in my life as far as growth and maturity and development. For sure, it was really one of the biggest catalyst for changes, you know it's like pretransfer I was coming here. I learned through the ROTC, through the years. I still grew because different years brought different challenges and different expectations of what you're supposed

to do, like your job. That aspect of the ROTC I agree was a great benefit over the years after I transferred. (personal communication, April 9, 2015)

He went on to discuss his cultural organization involvement:

My cultural organization, that's been great, because we all have a similar interest, and it's easy to relate with, and they're supportive. A lot of us, we have classes together so helps there too. (personal communication, March 27, 2015)

Carl, a member of the same cultural organization, offered his input on the experience:

I'm in a student organization or group, it's made of all African American men, some might also be transfers, but I know some of them have been here the whole time. It's great to get to feed off of each other and share our experiences and backgrounds. We're all different, but we all have something in common. We can sort of push each other and use each other as inspiration. (personal communication, March 30, 2015)

Jenny said that her involvement in extracurricular activities had turned into a great opportunity to obtain automatic admission to medical school:

My biggest success so far, I don't even know if I've talked about this yet, but I got into this premed program which is for underrepresented-in-medicine students. And so only ten people got admitted into that, and so when I got that, that was like a huge success for me. I only found out about it from when I joined the premed society my first year here. (personal communication, April 8, 2015)

Social interaction and discouragement. Most of the participants admitted that prior to transferring, they had imagined college to be made up of school during the day

and parties at night. They all quickly dismissed this notion during their initial experience at SU. They realized early on that due to the course difficulty, they needed to make adjustments. This heavy workload led to some emotional collateral damage. Students talked about a lack of social interaction, loneliness, depression, and some symptoms of fear. Most of the participants admitted to attending a few social activities with student organizations and friends but said that because academics took priority they rarely, if ever, went to bars, clubs, or private parties. This dedication was not unexpected since these were premedical students, but the emotional toll should not be ignored and may be greater for transfer students than for native students.

David's experience was unique because he had been a student athlete and had to fulfill certain requirements to maintain his scholarship. He described the temptation to participate in extracurricular activities instead of studying:

My focus was so different when I was first came here. Man, it was like about partying, football, girls, and stuff, and I'm really not a party guy. But it was just really, you know, if I can rephrase that it would be just about having fun. I kind of lost focus of why I was here to do academically, you know. (personal communication, March 26, 2015)

Although he had adjusted his academic goals and was on a path to improvement, he admitted that when he feels overwhelmed, he wants to shut down and avoid his studies:

I feel that I'm just not doing the best that I can do. I'm still in a phase where I procrastinate, or I know I need to be doing something else but I find anything else I can do but that. Last semester it was the night before my last final and I

stayed up all night and watched Netflix. My exam was at 8:00 a.m., and I started studying about 6:00 a.m. The only reason I did that was because it was nutrition, and I wasn't too worried about that. Most of it was common sense. I wasn't going to make an A, but I only needed a fifty to get a B. It was just my last final, and I just wanted to get it out of the way. Why do you want to study your butt off when you know you only have to get half the questions right. It's not a good way to think, but it's the end and you're all burned out. I just ordered pizza, had a Netflix marathon, cleaned up the house, and started studying about 6:00 a.m. (personal communication, April 3, 2015)

Mary described her feelings of stress at SU compared to her previous university:

Before coming to SU, I actually had like, I lived pretty stress-free over there because it was a smaller college. So for sure they didn't have all of these clubs, and they didn't have as many things to do and get active in, so you don't really feel the need to do anything there. I mean they barely even had like, you know, like a premed study you know what I mean. So I didn't have very much going on stress-wise or extracurricular. I didn't have very much of an option over there, so I did maybe a little bit of volunteering and that was it. Whereas when I got here, I can make no excuses like, you know, there's like a ton of things you can do besides study, and it can be very overwhelming. (personal communication, April 10, 2015)

Stereotypes and ethnic differences. Overall, during the first interview, these underrepresented-in-medicine students reported mostly positive opinions of and

experiences at SU. However, as the interviews progressed, they admitted to experiencing some racial stereotyping. The students all said that they knew about SU's demographics before transferring and realized that they would be part of a much smaller ethnic classification than previously. None felt any fear or trepidation about transferring to SU.

Mary explained:

My sisters went here, so I had the background in the school and knew that I would be a minority. It was like that in high school and at the university that I transferred from. I have never had issues with that and feel that good people don't think about racial differences. Not that much anyway. (personal communication, April 10, 2015)

Jenny, who had come to SU from a majority Hispanic population and culture, said she felt little concern about being discriminated against at a place of higher education:

I thought that, since I'm going to a well-known university that is a place of higher education and many educated people, they are above that sort of thing. So I didn't really worry about that. I've never really had any like discrimination or anything like that so I think that it was pretty good or it is pretty good. (personal communication, April 13, 2015)

The participants did mention using a small amount of caution upon coming to such a large university comprised of a predominantly White population. They seemed to embrace this change and opportunity to meet new people. The Hispanic students had to only minimally adjust to the demographic differences, and they acclimated to any ethnic differences, as Clair described:

I'm Hispanic, so I'm really loud and people, I guess here, are like whoa you talk way too loud. I mean it's definitely different because personalities back home because mostly everyone is Hispanic back where I was. Everyone talked loudly and joked in the same way. Here everybody jokes a little bit different. I don't know; it was just really different. I had to learn what their sense of humor was I guess, and I guess I try to learn their mannerisms. I try to observe people and observe their facial expressions to see how they react to things so that later on I know what that means. Just trying to analyze people is rough. (personal communication, April 9, 2015)

Three of the African American participants stressed the importance of having joined student organizations specifically created for Black students. Carl noted:

Actually, the men's cultural club was one of the most supportive groups. I joined my freshmen year, and it allowed me to get connected to other African American men that were in the same position that I was in at that time. So we would push each other through our freshmen year, and we keep in contact from that day to this day now. We all still stay in touch. We really, you know, just pushed each other, while we were here, you know in a good way, motivation. (personal communication, March 30, 2015)

The participants also discussed the benefits of support systems consisting of students of the same ethnicity from a purely professorial and mentorship perspective. They generally agreed that instructors of the same ethnicity provide no extra support, as

they are there to teach all students equally. They received more mentorship and support from older students of the same ethnicity in their student organizations.

Being stereotyped. Even though the students did not describe what they would consider overt harassment, they did experience racial stereotyping. David explained that because of his physical build and African American ethnicity, fellow students immediately assumed he was attending the university for free on an athletic scholarship while majoring in an easy subject simply to maintain his eligibility:

But you know, I was in a real major, not taking it you know free, I am paying and will be. No free ride, no cake major. (personal communication, March 27, 2015)

Carl, also African American, said he had experienced similar stereotyping from some of his White friends regarding his assumed or expected abilities:

But a couple stories I have, when I was in my first year here, myself and other African American buddies would go out to the basketball courts to just shoot around and have fun, but none of us are really athletic like that, so my White buddies who were really good at basketball would ask me, “How are you Black and you can’t play basketball?” I personally can’t dance you know, and people ask, “How are you Black and can’t dance?” and things like that. So I really noticed that wow, people really do see African Americans in a different light, and we should be able to do certain things in their eyes. And I guess it’s the first time I really got introduced to stereotypes and things like that, which is a big part of the world. (personal communication, April 15, 2015)

These interactions are known as *microaggressions*. Researchers explain that microaggressions are not just name calling but can be classified into three different levels of increasing aggression: *microinvalidations*, *microinsults*, and *microassaults* (Sue et al., 2007). Microinvalidations occur when people of color experience a lack of respect for their thoughts, feelings, and personal experiences. Microinsults are more of a “subtle snub” in which someone of color is ignored, and their contributions are not acknowledged as valid or even as existing. Microassaults occur when a person of color experiences racist behavior, such as name calling, from others. Grier-Reed (2010) has researched African American students at PWIs and has suggested creating *safe spaces*, or sanctuaries, for these students to help them cope with microaggressions. Although all these levels of microaggression are offensive, they vary in their aggressiveness, as previously stated. Many of the experiences that the students in this study reported to me would fall under microinvalidations. At any large PWI, some level of microaggression will likely occur at some point. A recent microassault occurred at SU when a group of underrepresented prospective students visited campus. While speaking with Carl about this occurrence, he once again demonstrated his strong character and his belief that his fellow SU students are not like the few offenders on campus:

I've personally never experienced any blatant racism of any kind during my tenure at SU. I hope and pray these bad excuses for SU students are dealt with accordingly. I pray for the young ones involved in such a ridiculous incident as well. (personal communication, April 15, 2015)

CHAPTER V

SUMMARY AND CONCLUSION

Throughout the interview process and upon completion, it became apparent that each participant's educational future could follow three or four possible paths. Three of the students were maintaining their academics at a level sufficient to apply to medical school. Two of these three students planned to start the application process for medical school at the end of the spring 2015 semester. One of the seven students was performing well academically but had decided against medical school. He planned to apply to a graduate level program in a nutritional field. Two of the students who had experienced a heavier level of transfer shock than the others felt that their academics were insufficient but still hoped to eventually apply to medical school. They were considering alternate routes to get there, including full-time employment upon graduation and additional courses over the next year or two to improve their grades. Seeking a different level of education in the medical field provided another route. This could include the medical or radiological technician field or registered nursing or physical therapy programs. The last student out of the seven believed that the academic damage that had occurred as a result of the initial transfer shock would not be recoverable. This participant planned on just attaining a bachelor's degree and then employment. On a tangential question, however, I asked if the student had considered the possibility of another career in the medical field. The reply was that these fields might be an option, but the student just wanted to graduate first.

Four out of the seven students who had experienced some level of transfer shock quickly adjusted and recovered academically. These four shared a few commonalities or correlations between them. For example, only one of the four had transferred from a four-year university, while the other three had transferred from community colleges. The remaining three of the seven students did not feel they had adequately recovered and were looking into alternate routes to medical school. Two of these three students had transferred from a four-year university, while one had transferred from a community college. Two of the seven students had transferred in from the same community college, and one was academically successful while one was academically deficient.

Upon further examination of their comments and experiences, it became clear that the four academically successful students shared two to three common resources. All four specifically mentioned their academic advisor as a beneficial resource, and they utilized the Academic Success Center's resources as well as the PAO. Although the Academic Success Center's SI sessions did not receive good reviews as a resource, all four of these students mentioned the center itself. One of the academically deficient students took a required course during the second semester that taught study skills and time management, which appeared to improve these skills and be beneficial. Most of the students mentioned, on multiple occasions, the advantages of at least one of the organizations that they participated in on campus.

Additionally, this study found that some of the students believed that such a large university is unconcerned about student attrition, especially in such a competitive field. They were of the opinion that SU will challenge even those qualified to pursue the

medical field enough to eliminate them. Although SU offers many resources for support, both personally and academically, it may need to consider making them a requirement for students, as Mary stated:

I know it's very competitive here and even more so at the medical schools, so I'm sure that SU is so hard, or makes it so hard, so they can weed out the students that probably wouldn't make it in med school anyway. Maybe they need to help them learn though and then they could survive med school. Maybe they should start doing this in high school or earlier. (personal communication, April 10, 2015)

David also felt that SU could put forth a little more effort to help students manage, as he explained:

I'm very lucky to have a job at the PAO and know everybody there and that they are willing to help me. I don't think that most students are that lucky and don't really know what is out there that can help them. Maybe the school should make everyone know about all of the help they can get. Give them a test on it or make them take a class. Especially freshmen and transfers. You know, first semester, before it's too late. (personal communication, March 26, 2015)

CHAPTER VI

INTERPRETATION AND RECOMMENDATIONS

This case study researched a sample of transfer students specifically classified as underrepresented in medicine who were following a premedical curricula at a predominantly White “Carnegie Tier One” research university. The research questions that guided the study were: How do underrepresented-in-medicine transfer students attending a predominantly White university enrolled in a premedical undergraduate program perceive their educational environment, and what are their perceptions of the services provided by the university to ensure their academic success? And, according to the students, what services must be in place for these underrepresented-in-medicine transfer students to succeed at a predominantly White university enrolled in a premedical undergraduate program?

Perceptions of Educational Environment and Services

Educational environment. It became apparent that students’ educational environment is not so easily compartmentalized into academic and social classifications. The responses regarding their educational environment ultimately expanded to include not only their classroom or academic setting but also their campus community of extracurricular environment and student-group organizations, as well as their on-campus and off-campus social lives and support systems. These underrepresented in medicine students came to SU knowing the demographics and realizing they would be underrepresented in the general population of students, but they did not harbor fears of discrimination or presumptions of being treated differently. Upon asking the generic

question of how they perceived their educational environment, most of their nonspecific responses indicated that they viewed it in a positive light.

The responses were mixed regarding the general educational environment of the classroom or academic setting. Many students noted their expectations upon transferring into a top-tier university and facing an increase in course load and academic rigor. Some students were prepared and acclimated to their more academically strenuous environment faster than others. As a result they experienced a lower level of transfer shock. Some of the students suffered a higher level of transfer shock and found it more difficult to adjust academically. The overall opinion of the classroom or academic educational environment was relatively satisfactory and indicative of a fair and safe institution. When questioned, students made no mention of perceived ethnic or gender-based discrimination from faculty, staff, or fellow students in the actual classroom setting. The general consensus was that the university's academic requirements were meant to challenge all students; those who were insufficiently prepared would not perform as well, regardless of underrepresented-in-medicine status. As previously mentioned, all the participants experienced transfer shock—just at different levels. Four of the students felt that their previous institutions had failed to adequately prepare them for the transfer. They described taking courses that were not challenging enough to build a strong foundation prior to transfer, being forced to take required pretransfer courses that did not transfer after all, or receiving no appropriate warning about potential transfer shock. Three of the students believed they had been warned ahead of time and had been able to adjust accordingly. These students had attended pretransfer institutions that have

historically acted as feeder schools for SU. They indicated that their fellow students, advising staff, and professors realized that most of the students attending these schools would eventually attempt to transfer into SU, and they taught and advised accordingly. Although they were warned of expected transfer shock upon transferring to SU, these students still experienced an increase in academic course load and rigor. Nearly all the participants expressed high levels of appreciation for or held positive opinions of the instructors at their previous institutions. Although these instructors may not have prepared them academically to the fullest extent possible, the students believed these instructors were invested in the students' education and success. All the participants noted that classes at their pretransfer institutions were much smaller.

Pretransfer academic advisers received good reviews about their concern and availability but advisers may have lacked knowledge about transfer shock due to coordinating with so many colleges and universities and coping with differing expectations, requirements, and variances. As with pretransfer advising, the students found the SU academic advisers to be helpful and readily available, but some of the students specifically noted that their instructors at SU were not as readily available or helpful. This was not consistent across all participants, as two of the students mentioned receiving great advice and assistance from their instructors. When asked if they had experienced a professor of similar ethnicity or cultural background, and if having a professor of similar ethnicity or cultural background made a difference in how they perceived their educational environment. All of the students had this experience and all answered that it did not. This was counter to Thile and Matt's (1995) research finding

that underrepresented students in a similar situation might seek mentorships from faculty members of similar backgrounds.

All the students believed the campus and community at SU were welcoming in a general sense, and nearly all the students were participating in extracurricular activities and student organizations. During the first round of interviews, all the students mentioned, in some form, their attraction to SU prior to transferring because of its reputation as a tightly knit community. However, when questioned about racial or cultural discrimination, two of the students, both African American men, described experiencing racial stereotypes or microinsults but not microassaults, which include name calling and public harassment. On multiple occasions the participants explained situations and comments best described as microaggressions. As mentioned in the previous chapter, microaggressions such as racial stereotyping fall under the category of microinsults and could possibly be considered more severe, to the level of a microassault, by a student. There were subtle comments from two of the Hispanic women about the demographics of the PWI. Both students said that while they did not feel excluded and had not experienced differential treatment, they did feel compelled to behave differently than when among students with similar ethnic or cultural backgrounds. White students would likely not bear this burden, as they represent the majority of the institution's ethnic makeup. These microaggressive behaviors and reactions could be considered microinvalidations, as the students did feel the need to change their inherent personality traits in order to fit into a group. All the mentioned microaggressions occurred in a campus or community setting, not in a class or academic

setting. These experiences were from fellow students and not faculty or staff.

Considering that all the students reported at least one microaggression at some point, PWIs need to do more to educate their White students about cultural diversity. While this institution has a cultural competency requirement, these findings are consistent with campus climate reports.

As previously mentioned, many of the students participated in student organizations, some of them cultural. Support from these student organizations allowed students the familiarity of having friends and mentors from similar cultural backgrounds. The participants involved in student organizations mentioned little about the academic benefits and focused more on the social, friendship, and mentorship support of these organizations. This is consistent with prior research showing that cultural organizations provide important support systems for underrepresented students (Laanan, 2007).

Other major components of how students perceived their educational environment included their on-campus and off-campus social lives and support systems. Some of the students relied on friends as their system of support, whether they were friends from their previous institution who had also transferred to SU, new friends made after transferring, or relationships built through student organizations. Five of the seven participants reported adequate social support. Two of the students mentioned loneliness, lack of a social life, and feeling depressed on multiple occasions. They were currently seeking help through campus resources. This question was not posed to every student because some might have been uncomfortable discussing personal situations such as counseling. Conversely, this lack of self-disclosure does not suggest that all these

students were socially integrated; they may instead have chosen to forgo campus services for assistance or did not wish to disclose such.

Family proved to be a major source of support for all these students. Family was also a major driving force to succeed, motivating students to reach the next level of medical school in order to assist their families and their communities. Some of the participants came from difficult backgrounds in which certain family members were incarcerated, and attending SU offered an opportunity not only to create a better future for themselves and their families but also to escape negative influences. Most of the participants mentioned a sense of obligation to succeed for their families and a realization that they were attending SU to earn a degree, not just to enjoy a free ride or have fun. Most felt they had reached a healthy balance of academic and social activities. Because procrastination was a theme mentioned by nearly all the participants on multiple occasions, each was questioned to determine if he or she noticed any common factors contributing to procrastination. More specifically, the goal was to discover whether these students felt they dedicated more time to social activities than to academics. Many of the students mentioned their social lives, but none openly admitted to being distracted by parties or the nightlife.

Procrastination likely has more to do with student life in general than with specific ethnic background. It may indicate that transfer students could use additional assistance with time management.

Educational services. Student perceptions about the educational services provided were mixed. During the interview process, every student recalled receiving

information about services during the transfer orientation. Six major on-campus services, including the Student Counseling Center, the Department of Student Activities, the PAO, the Career Center, and the Academic Success Center were discussed during the interviews, as well as departmental-sponsored tutoring, ROTC tutoring, and SI. Nearly all the participants specifically noted that receiving such enormous loads of information at the orientation caused them to pay little attention to the services information. None of the students reported visiting the services offices or registering for services at the beginning of the semester, possibly because they had succeeded at their community colleges and did not know they would need the support. The students who did utilize the on-campus services said they found them to be *ex post facto* because they did not seek academic assistance until nearly too late. Perhaps such information should be provided several weeks into the semester, at a point where students are more willing to hear and assimilate the information but before they fall too far behind.

Participants' responses were inconsistent when rating whether each individual service/office was exemplary and should be required or whether it was inadequate enough to be cancelled altogether. The participants stated that they believed the services were in place to help them succeed academically, but some were more sufficient than others.

The two African American men were the only two students who participated in the ROTC and thus the ROTC tutoring service. Coupled with the required nightly study time, these two participants expressed gratitude for the service but believed it might prove insufficient for courses such as the heavier sciences. Only two students discussed

using the Student Counseling Center. Other participants mentioned knowledge of the service but did not seek it out. Four of the seven participants mentioned using the PAO and the Career Center, departmental tutoring, the Academic Success Center, and SI. These four out of seven students were not the same for each service but a varied mix. Although the Academic Success Center offers multiple services, students seemed to have the most knowledge about SI and found it to be the least helpful. Sessions were not offered for many of the more difficult courses, and those that did exist were, according to the students, inferior to off-campus tutoring services. This shared opinion among the participants extended to departmental tutors as well, leading the students to seek off-campus resources. The students' negative opinions of the available academic support could stem from a mix of inadequate SI session content and a lack of advertising. The mentioned university-offered resources are for the general population of students at SU and are not specific to ethnicity or transfer student status. The only services specific to their ethnicities or career goals are through the Department of Student Activities, which offers students of similar ethnicities and backgrounds a chance to socialize with each other and develop peer-mentor relationships. Career-specific groups, such as the Pre-Medical Student Association, offer them the opportunity to interact with other students who share the same ultimate goal of medical school. The Department of Student Activities, which houses all of the student organizations in which these students participated, was mentioned in the interviews as the most used. While Student Activities is available to all students at SU, many organizations specific to particular interests and cultures exist. Six out of the seven participants were utilizing Student Activities in some

form of on-campus student group; it must also be noted that most of these groups were for social support; only a couple focused on academic support. Most of the groups the students participated in were ethnic groups or career groups. Some of the academic support groups, for example, the Pre-Medical Student Association, offered the collateral benefit of locating tutors and study groups.

Campus services needed to succeed. The second research question asked the students: What services must be in place for these underrepresented-in-medicine transfer students to succeed in a predominantly White university enrolled in a premedical undergraduate program? Unfortunately, there was no one perfect answer, and many of the participants did not have an opinion or an answer as to what services are needed to help them succeed at SU or in a similar situation. Some of the participants believed it was their responsibility to seek help if needed. Others did utilize services, but usually too late. Many of the campus services discussed in the first question were considered useful and sufficient, while other services could use additional marketing and advertising, be of higher quality, or be a mandatory presence in the students' lives at SU. The SI sessions needed the most improvement, according to the students. It is also possible that certain services ensuring student success—such as those geared not only toward tutoring but also toward helping students acclimate to their climate physically, mentally, and emotionally—simply do not exist on the SU campus. Additional research should be conducted to develop such services.

For the purpose of this case study, students were described as achieving success if they transferred to SU, performed well academically with the intent of completing the

prerequisites for medical school, and were ultimately admitted to a professional medical program. However, that definition eventually became less clear as three of the seven participants who were academically successful planned on applying to medical school, and one additional participant, who was also academically successful, no longer planned to apply to medical school. This fourth student would still be considered successful but simply had a change in career goal. The three remaining students were not performing well academically, and one student planned to apply to a graduate program instead of medical school. The students felt that many of the services repeatedly mentioned and discussed during these interviews were valuable to achieving success. An analysis of the study participants who performed successfully academically versus those who performed unsuccessfully showed some similarities in services utilized as well as extracurricular involvement and time management. However, no cause or correlation in the use of these services, in any single or combined method, could determine if a student would be academically successful. Rather, some of the students using academic support systems would be academically successful, while others using the same service would not be.

All the students had maintained employment throughout their time at college. Nearly all also depended on supplemental financial support, including scholarships, grants, and loans. This financial burden added to students' stress levels, especially when they looked to the future of getting accepted to medical school and funding that part of their education. The amount of debt they had incurred and will continue to incur caused major anxiety for these students. Although scholarship and financial aid workshops are presented at transfer orientations, they are only few of many. As with other presentations

that students witness prior to enrolling for their first semester, the topics are only briefly discussed and usually given a low priority at the time. Most of the participants recalled hearing about resources to help with financial need, but none mentioned seeking help from an advisor or visiting the office of scholarship and financial aid. They mentioned only the stress and financial burden of funding their education and paying loans off in the future. Given the current stage of ever-increasing tuition rates across the country, unless a student receives a fully funded college education either from family or grants and aid, there will always be uncertainty about receiving a return on the investment.

Recommendations for Practice

Based on the research of this case study, I have developed recommendations to be put in place at SU that have the goal of helping underrepresented-in-medicine transfer students make a smoother transition into the university and alleviate, and possibly eliminate, transfer shock. Ideally, there should be more extensive and elaborate communication with underrepresented-in- medicine transfer students going back to their high school careers and up to their application to SU. This recommendation should be applied to other universities that fall under the same classification of a research university. As many students now attend community colleges prior to transferring to four-year universities, clarification may be needed at the pretransfer level to encourage them to complete an associate's degree versus preparing to transfer to the four-year level, or possibly a combination of both.

It would also be advantageous to coach these pretransfer students with the experiential knowledge that at the community college level one can say one is on a

premedical track simply by taking certain courses. At the university level, one must compete with other premedical track students and succeed academically to earn this right. This cognitive shift from choice to competition is an important part of their transfer adjustment. Prospective students need a more detailed outline of their future, but given the wide range of high school students with academic paths yet to be determined, this would be a valuable but unlikely scenario.

However, this case study recommends that communication and support networks be established upon students' transfer admission to SU and last throughout their initial semester, if not their entire first year. This contact and support should be further established at their transfer orientation, with a detailed session directed toward students pursuing the premedical track. Learning communities and seminars for credit should be an option to help these underrepresented-in-medicine transfer students acclimate and build further systems of support.

Finally, it is recommended that further research be conducted to determine potential personality traits or academic backgrounds that may be determining factors of student academic success in underrepresented-in-medicine transfer students. Many variables not covered in this case study could lead to potential findings, such as resiliency and coping strategies.

Major-specific first-year seminars. This recommendation would have an impact on students from the time they are admitted to SU through their transfer orientation and into their first semester. The transfer orientation is a mandatory informational conference with varying sessions that allows students to check in and

verify they are attending the university, learn about campus safety, experience the overall campus environment, become informed about academic expectations, receive information about financing their education, and discover many of the campus services discussed in this case study. These activities will distribute and attempt to detail most of the campus resources that are integral to these transfer students and their ability to adjust to their new environment. The orientation concludes when each student has met with his or her academic advisor and is registered for the first semester. Many on-campus offices, services, and departments are responsible for coordinating the transfer orientation. Once the transfer students have been admitted to the university and to their major, it is the responsibility of the university to make certain these students are not only aware of the support systems available to them but able to demonstrate their knowledge of these support systems. The massive amount of information distributed to the transfer students, covering varying campus entities, may be too much to process in the very short span of the transfer orientation. It may be information overload, without a practical application or help on how to utilize it. When students eventually need such resources during their first semester, many of the details may have been forgotten or lost in their new, more stressful academic environment. As a possible way to combat this, some services could be highlighted through interactive and engaging orientation sessions, seminars, learning communities, or other activities directed toward assisting those who meet the specific criteria of being underrepresented-in-medicine transfer students. Some of these recommendations may currently exist at SU, but they are not promoted or enforced to optimally benefit these students.

Although all transfer students may be expected to experience transfer shock and benefit from services, this study specifically researched the effect on underrepresented-in-medicine transfer students. Additional breakout sessions or meetings for such students at the transfer orientation, which would detail transfer shock, the increase in academic rigor, and the heavier course load, are recommended. As an extra precaution, all incoming underrepresented-in-medicine transfer students should register with the essential campus support systems, including but not limited to the Academic Success Center, the Career Center, and the PAO. This registration should be done during the first two weeks of school, long enough after the transfer orientation to prevent information overload but prior to experiencing any failure.

Some departments on the SU campus—for example, the geology department—require all incoming transfer students to register for a one-credit-hour course aimed at helping them to assimilate to their new academic environment. This course assists in time management, study skills, campus resources, and faculty interaction. It is recommended that all departments within each college consider a similar seminar for all transfer students, not only those who are underrepresented in medicine. But for those transfer students who meet the criteria of underrepresented in medicine, it is recommended that the PAO, in coordination with other major departments housing premedical students, require students to register for a one-hour seminar course that would address the issues of transfer shock, time management, study skills, campus resources, medical school prerequisites, the medical school application process timeline, and faculty interaction. Some of the topic sessions may seem to be presented too early in

the transfer students' careers but are meant to expose them to the upcoming expectations of the premedical track. Current topics affecting these transfer students could be incorporated into sessions throughout the semester to address the issues of adapting to a different cultural environment, coping with microaggressions, and dealing with forms of harassment. As these students are considered underrepresented at a PWI, they would likely continue to be underrepresented at the medical school level. Exposure to these topics during their undergraduate careers would likely help them to develop ways of coping with being underrepresented in various situations. This proactive approach of requiring students to interact with campus support systems could offer guidance and stave off transfer shock during the first semester.

Major-specific living and learning communities. Similar to these departmental transfer seminars, some departments on the SU campus require students to join a learning community. Students in the Honors Program must register for a specific honors learning-community course, on top of their regular semester courses, that will encompass the cohort of incoming freshmen and transfer students over their first two semesters at SU. The freshmen admitted to the Honors Program are even offered the opportunity to live in an honors residence hall with their fellow students within the cohort. This learning community is designed to help students acclimate to their new academic and general campus environment with other students in similar situations. This model could be incorporated into the required departmental seminar in a way that would require or strongly encourage underrepresented-in-medicine transfer students to register for a year-long or two-semester learning experience. This will be further discussed in

recommendation two. Because students at SU are not required to live on campus and transfer students are less likely to live on campus, they would not have to share a common residence hall. However, those who chose to do so could find it useful. A premed transfer “club” might serve a similar purpose of building relationships and peer mentorships. SU also currently offers an optional transfer camp designed to help transfer students acclimate to their new environment, familiarize themselves with campus policies and support groups, and learn the importance of meeting with their major department for academic advising and course registration. Participation in these camps begins prior to the start of the first semester, and the details of these recommendations could be promoted and marketed during these camps.

Year-long support services. A support system similar to the seminars and learning communities should be proposed, to continue throughout the entire first year and beyond, incorporating professional development opportunities including academic recovery skills. It can focus specifically on the application process, or on the alternate routes available to achieve the goal of attending medical school, or on other medical careers if medical school is no longer a career path or an option. The PAO offers similar services to all students looking at professional school, but they are entirely optional. This study recommends making the process mandatory and geared toward educating the underrepresented-in-medicine transfer students through each progressive step of the medical school application process. Two students, Clair and David, said that they would not have known how to recover from the transfer shock they experienced during their

first semester if not for the mandatory academic success sessions they had to attend. As Clair stated:

My first semester was really bad. I usually deal with pressure really well, but since this was my academics, I didn't know what to do, and I didn't take it really well. I had never experienced this and didn't know how to fix it. I started freaking out. I probably wouldn't have been able to fix it if they didn't make me take the class the second semester. (personal communication, April 9, 2015)

If the year-long learning experience in recommendation two is put into effect, it would allow underrepresented-in-medicine students an entire year to acclimate to SU and gain a bearing on their academic goals and the requirements for applying to medical school. The university as a whole, but especially a student's academic department and the PAO, should be proactive in coaching these students through this process.

Maintaining excellent grades and enjoyable extracurricular activities should be stressed at medical school application and interview workshops. During the fall semester of 2016, with the intent of making these beneficial services more convenient for students to utilize, the PAO and the Career Center on the SU campus were integrated and now reside in the same location in the Department of Student Activities. This fortuitous merging of the two most crucial campus support systems will allow underrepresented-in-medicine transfer students to conveniently register with both offices and reap the combined benefits. This year-long solution can also provide a great advantage for any of these students who, for whatever reason, decide against applying to medical school. They may be unaware of the numerous careers and opportunities that are available in the medical

field. Because the PAO is responsible for counseling students on all medical career paths and other professional or graduate level programs, students can be made aware of alternate careers in the medical field, such as physical therapy, chiropractic medicine, nursing, or pharmacy, to list a few. The PAO can also point students toward furthering their education at the technical program level as well as toward continuing education at the graduate level. Examples of technical program level jobs include veterinary technician, radiology technician, or medical technician, while graduate level programs include master's or doctorate degrees in public health, hospital administration, or research fields such as epidemiology. In addition, the Career Center will work in tandem to offer workshops for improving interview skills for medical or professional schools, as well as other careers in case these students decide to go directly into the workforce prior to, or instead of, medical school. Although some students may only make use of these skills far into the future, they could still learn valuable life lessons.

More emphasis should be placed on programs that teach resiliency and recovery methods to students who experience transfer shock and unexpected academic downturns. If possible, it would be ideal for students to learn these skills at the community college level, if not as early as high school. This study also recommends that the Academic Success Center utilize the combined resources of the PAO and the Career Center to offer more on-campus academic support systems for the notoriously difficult science courses, such as organic chemistry, biochemistry, microbiology, anatomy, and physiology. They currently focus mostly on freshman-level courses, leaving transfer students in their first SU science course struggling on their own. Many students on a premedical track are

forced to seek off-campus tutoring sessions, which are not included in student fees and have substantial out-of-pocket costs. Underrepresented-in-medicine transfer students, many of whom are taking out supplemental loans and must maintain employment to afford their tuition and living expenses, may not be able to afford this additional expenditure. When the premier tutoring resources charge for services believed to be superior to on-campus tutoring, the service becomes exclusive and favors those with the ability to pay for them. And because these additional tutoring options are not affiliated with the university, they operate in the evenings away from campus, making them inconvenient and complicated for students with night jobs or without transportation. All the study participants consistently repeated that the on-campus tutoring services were inferior to the for-profit off-campus tutoring resources. It would benefit SU to research the factors making the off-campus resources superior and learn from them. Perhaps the university's SIs receive negative comments due to the methods of instruction, the tutors' knowledge and ability to communicate with students at varying levels, the hours offered, or a lack of course offerings. Simply achieving an A in the course one is tutoring does not guarantee that a tutor possesses the sufficient skills for the job.

Finally, the last recommendation is for stronger and more efficient channels of communication between the campus support systems and the academic college administration, academic advisors, admissions office, and recruiting offices. These departments all offer varying areas of expertise and levels of contact with the students, and it is paramount that students' progress toward medical school be the priority of each party involved. The steps of recruitment, admission, enrollment, and graduation with the

intent of applying and being accepted to medical should be uniform, to a point, while staying flexible enough to accommodate all students.

Better information to students pretransfer. Some of the academically successful students in this study came from community colleges considered to be feeder schools or have agreements with SU to matriculate the majority of their students to the university. These relationships should be strengthened with additional communication and partnerships. Even more important is the need for better connections and collaboration with the remainder of colleges in the state that are not considered feeder schools. This could lead to a straighter path and a smoother transition during the transfer process. The distribution of pretransfer information to colleges that specifically target prospective underrepresented-in-medicine students would be ideal. This critical information should detail the process of college admission, the theory of transfer shock, the prerequisite coursework for medical school admission, and the application process and requirements for admission to medical school. And students should be told that because no specific department or major is the sole route to medical school, they should carefully consider their degree of choice. Prerequisites, equivalent courses, and especially increases in academic rigor and course load should be emphasized prior to applying to transfer. This is not to discourage students from attending SU but rather to encourage students to prepare academically and to understand the expectations as they work toward admission to medical school.

Future research on student resiliency and coping strategies. Additional research focusing on underrepresented-in-medicine transfer students should be

conducted that delves into topics this case study was not able to cover. This includes personality traits such as college choice options and personal recovery beliefs and traits. In this study, some students recovered from their initial challenges, while others did not, and these differences did not appear to be related only to innate intelligence. Students have varying ways of perceiving failure and recovering from what one considers failure. Certain students may believe success is linked to intelligence, which is fixed or limited. As a result they see themselves as not smart enough to master a subject. Other students may believe that intelligence is relative and that hard work, extra studying, and the use of resources will bring success. Some of the students discussed their methods of recovering from challenges but not in enough detail to discover if student *resiliency*, or the ability to overcome obstacles, might ultimately determine success or failure. One finding in this study suggests that resiliency may be important to the academic success or failure of the students in this group. Cavazos et al.'s 2010 study of Latina/o college students found that resiliency played a major role in the success of students. The factors that contributed to building resiliency, which in turn leads to academic success, included support from family and friends, internal motivation and locus of control, and feelings of high self-efficacy. The responsibility of academic success and failure should not lie entirely with the student, as all students possess varying degrees of resiliency and knowledge of how to complete a task, as well as when and where to find resources. The university also bears some of the responsibility to help students to succeed. A more altruistic approach to education, at an earlier point in their academic careers, could develop these students' ability to recover when facing obstacles.

College choice and admissions criteria. This study did not determine if the participants had initially applied to SU and were rejected. If so, we may need to reevaluate our admissions criteria. A massive amount of research exists on standardized tests and college admissions, but very little, if any, can be found to determine if underrepresented-in-medicine transfer students' standardized test scores represent their potential academic success, particularly given the added adjustments of transfer. Research in this area has been limited because standardized tests are not required to apply to a community college and eventually transfer to a four-year institution. Such research should incorporate a student's high school ranking, honors courses, and advanced placement courses to better predict his or her progression through college. If after two years of successful college we are still losing more than 50% of our initially interested underrepresented premedical students from the career path, more research and improved practice is needed.

This case study was conducted with the intent of researching, through their personal experiences, the effects of transfer shock on underrepresented-in-medicine transfer students. Through interviewing this sample of students, the researcher expected to find causes and/or correlations in their academic success or failure based on recent research that attributes attrition rates to variables including, but not limited to, family educational background and income, transferring institution, gender or ethnicity at a PWI, and availability of resources.

Is the community college and transfer route a viable option?

The 2016-2017 national medical school admission rates, by varying ethnicities (Table 4.6), were used to contrast the participants in this case study. As the national applicant and admission demographics are similar to that of SU, it can be assumed that the disparity in underrepresented in medicine students is the same. In the table below, the percentages of admits, broken down by reported ethnicity make this apparent.

Table 4.6

Medical School Admission Demographics

Matriculant Ethnicity	Total	Percentage
Native American Only	54	0.3%
Hispanic Only	1,335	7.4%
African American Only	1,497	8.2%
Asian Only	4,475	24.6%
White Only	10,825	59.5%
Total matriculants	18,186	100%
Underrepresented in medicine matriculants	2,886	15.9%

It seems obvious that with so few students gaining admission to medical school, who began their careers at the community college prior to transferring to the four-year level, that this may not be the best option. Talamantes et al. (2014) found that in 2012, out of the total 17, 518 applicants admitted to medical schools nationwide, only 28% began their academic careers at the community college, yet 42% of students start out at a

community college. With the knowledge that underrepresented in medicine students are much more likely to begin their careers at the community college, this puts them at disadvantage from the beginning of their goals of medical school admission.

Throughout the interview process, the most prevalent variable found came not from those listed above but rather from each student's own resiliency. The fact that most of the students used the same support services, and yet some were academically successful, while others were not, proves that the ability to recover is either innate in these students or likely learned at an earlier stage of their educational career.

As our society strives to diversify all facets of our environment, specifically, for this case study, the field of medicine, we must do more to support underrepresented students as they progress through college and medical school. Considering that many such students begin their academic careers at the community college level, extra effort must be placed on educating them early about possible transfer shock and ways to recover. It is paramount that we find ways not only to ease the transition of underrepresented-in-medicine transfer students but to smooth the pathway toward their ultimate goal of medical school. It may be that at an even more fundamental level SU and similar institutions needs to ask themselves if they want to offer competition-based programs where only the strongest succeed or competency-based programs that offers educational opportunities tailored to all who could be successful in medical school.

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APPENDIX A

EMAIL FOR RECRUITMENT OF PARTICIPANTS

Howdy Research Participant Prospect:

You are receiving this email because you have registered with the Office of Professional School Advising as a potential medical school applicant and I am seeking participants to assist in a case study of premedical students. The Office of Professional School Advising has allowed me to utilize the JAMP contact list to reach out to aspiring premedical students in hopes of attaining a research group to participate in my graduate school case study.

I am in need of participants for a qualitative research project that is researching the transition community college transfer students undergo within a premedical major at a Division I, Research, predominantly White institution. This study will only require two to three personal meetings, no more than 60-minutes each and possibly some email or texting correspondence.

This research study has been reviewed by the Human Subjects' Protection Program and/or the Institutional Review Board at Texas A&M University. For research-related problems or questions regarding your rights as a research participant, you can contact these offices at (979) 458-4067 or irb@tamu.edu.

If you are willing to participate in this study, please reply to this email at brady-dennis@tamu.edu with the completed preliminary survey form attached. If selected, you will be contacted within the week. Please do not hesitate to contact me should you have any questions or concerns regarding this project. You may contact me at (979)255-3428.

Thank you,

Brady Dennis
Texas A&M University Graduate Student
College of Education and Human Development

APPENDIX B

PRELIMINARY SURVEY

Name: _____ Age: _____

Race/Ethnicity: _____ Gender: _____

Current GPR: _____ Major: _____ Hours Completed: _____

Highest Education Level of Father: _____

Highest Education Level of Mother: _____

Marital Status: _____ Hometown: _____

From where did you transfer? _____

GPA at Previous Institution: _____ Number of hours you transferred: _____

Did you work while at A&M? _____ If yes, how many hours per week: _____

Did you work before A&M? _____ If yes, how many hours per week: _____

What organizations were you involved with before you attended A&M? _____

What organizations have you joined while at A&M? _____

What academic support services have you utilized while at A&M? _____

What academic support services have you utilized external to A&M? _____

What forms of financial aid did you receive before A&M? _____

What forms of financial aid did you receive at A&M?

APPENDIX C

Level 1 Questions:

How did you decide that Texas A&M University (TAMU) was the university you wanted to attend?

What factors went into your decision to choose a future career in medicine?

Level 2 Questions:

	Moving In	Moving Through	Moving Out
Situation	<p>How do you feel community college prepared you for TAMU?</p> <p>What were the most stressful things in your life prior to attending TAMU?</p>	<p>Has there been anything you were expecting to experience at TAMU that has not occurred yet?</p> <p>How would you describe the difference in yourself, pretransfer to post transfer?</p>	<p>Reflecting back, how would you describe the TAMU campus climate to friends not attending TAMU and did that perception change over time, and if so, how?</p>
Support	<p>Describe how your family and friends felt about your transfer to TAMU?</p> <p>What other options did you consider when looking at four-year university options?</p>	<p>In what ways do you feel you had support after you started taking courses at TAMU?</p> <p>In what ways do you feel you did not have support?</p> <p>Can you describe the options for academic support you felt you had when you started taking courses at TAMU?</p>	<p>In what ways do you feel your support networks will change after your leave TAMU?</p> <p>Why do you think you have succeeded at TAMU while others students have not?</p>
Self	<p>What characteristics do you think you have that helped you get admitted to TAMU?</p> <p>Can you discuss how your friends at your previous college felt about you transferring to TAMU?</p>	<p>Can you describe what you would consider your greatest successes while at TAMU?</p> <p>Can you describe what you would consider your failures?</p>	<p>In what ways do you think you have grown or changed while pursuing the premedical track at TAMU?</p> <p>What changes are you most proud of?</p>

Strategies	<p>Did you seek out any resources at TAMU to prepare for the transition to a different school?</p> <p>Can you describe how you gained the information to make a successful transfer process to TAMU?</p>	<p>How do you recover from any setbacks or what you might consider failures while taking courses?</p>	<p>Do you intend to pursue medical school admission?</p> <p>What strategies have you used to maintain pursuit of this career goal?</p>
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APPENDIX D

CONSENT FORM

Howdy Research Participant Prospect:

The purpose of this form is to provide you information that may affect your decision as to whether or not to participate in this research study. If you decide to participate in this study, this form will also be used to record your consent.

You have been selected as a possible participant for a qualitative research project that is researching the transition community college transfers undergo at a Division I, Research, predominantly White institution, with the eventual goal of applying to medical school. The following will give you more information about this study that asks for your participation.

Introduction

You have been asked to participate in a research project studying transfer student transitions at Texas A&M University. The purpose of this study is to identify the strengths and weaknesses associated with the transition process for underrepresented in medicine students with a premedical goal at a predominantly White institution and identify experiences that can be enhanced to improve student academic success and graduation. You were selected to be a possible participant because you meet the conditions of being an underrepresented in medicine (race and/or ethnicity) student who transferred to Texas A&M University in preparation of matriculating to medical school.

What will you be asked to do?

If you agree to participate in this study, you will be interviewed to obtain a view of your transition experiences to date. This study will take approximately one hour for each of the three conversational interviews. Additional information may be gathered through follow-up communications including email, texts, phone calls. These interviews will be conducted throughout the spring 2015 semester. You will be asked questions about your overall experience as a transfer student and particularly about your academic challenges and success.

If you approve interviews will be recorded digitally and transcribed. The digitally recorded interviews will be stored on a personal password protected computer in an encrypted file. The transcripts will be stored under a pseudonym to keep the identity of each participant anonymous to all but the researcher and professor. These transcriptions will be kept in a locked filing cabinet. Paper transcriptions will be destroyed upon completion of this case study and digital recordings will be scheduled for destruction one year after the initial recording.

What are the risks involved in this study?

The risks associated in this study are minimal, and are not greater than risks ordinarily encountered in daily life.

What are the possible benefits of this study?

You will receive no direct benefit from participating in this study; however, the study will provide a clearer understanding of the transfer experience and the obstacles faced by students similar to you and might help the Aggies who follow you.

Do I have to participate?

No. Your participation is voluntary. You may decide not to participate or to withdraw at any time without your current or future relations with Texas A&M University being affected.

Who will know about my participation in this research study?

This study is confidential and the records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Only the researcher will have access to the records and the final report will use pseudonyms. When the final report is written, it may use quotes from you, but only quotes that would not easily reveal your identity will be used.

Information about you will be kept confidential to the extent permitted or required by law. People who have access to your information include the Principal Investigator and research study personnel. Representatives of regulatory agencies such as the Office of Human Research Protections (OHRP) and entities such as the Texas A&M University Human Subjects Protection Program may access your records to make sure the study is being run correctly and that information is collected properly.

Whom do I contact with questions about the research?

If you have questions regarding this study, you may contact Brady Dennis, (979)255-3428, brady-dennis@tamu.edu or Dr. Glenda Musoba, glenda.musoba@tamu.edu.

Whom do I contact about my rights as a research participant?

This research study has been reviewed by the Human Subjects' Protection Program and/or the Institutional Review Board at Texas A&M University. For research-related problems or questions regarding your rights as a research participant, you can contact these offices at (979)458-4067 or irb@tamu.edu.

Please do not hesitate to contact me should you have any questions or concerns regarding this project.

Thank you,

Brady Dennis

Please be sure you have read the above information, asked questions and received answers to your satisfaction. You will be given a copy of the consent form for your records. By signing this document, you consent to participate in this study.

_____ I give my permission for [photographs/audio/video recordings] to be made of me during my participation in this research study.

_____ I do not give my permission for [photographs/audio/video recordings] to be made of me during my participation in this research study.

Signature of Participant: _____ Date: _____

Printed Name: _____

Signature of Person Obtaining Consent: _____ Date: _____

Printed Name: _____