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EXPERIENCES OF UNDERREPRESENTED MINORITY STUDENTS IN HEALTH PROFESSIONS PROGRAMS, AND THEIR JOURNEYS TO THE PROGRAMS

by

Alisha L. Davis

A dissertation submitted to the Graduate College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Educational Leadership, Research and Technology
Western Michigan University
April 2018

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EXPERIENCES OF UNDERREPRESENTED MINORITY STUDENTS IN HEALTH PROFESSIONS PROGRAMS, AND THEIR JOURNEYS TO THE PROGRAMS

Alisha L Davis, Ph.D.

Western Michigan University, 2018

Classified as a public health concern, the lack of underrepresented minorities (URMs) in the U.S. health care workforce is still prominent today, even with the increase of URM groups having reached historic numbers of representation within the United States. It is projected that by 2050, URM groups will replace Whites as the majority, yet Whites currently make up the majority of the health care workforce. URM health professionals are more likely to provide accessible and culturally competent health services, and practice in racially and ethnically diverse communities. This helps to eliminate health care disparities, and reduces inequities found in disadvantaged communities.

In order to achieve the diversity needed in health care, a paradigm shift will be needed to necessitate this change. A primary area of focus needs to be directed at increasing the number of URMs in health professions programs, in order to ultimately increase the numbers in the health care workforce. One popular means of increasing URM representation are pipeline programs. They have been the most successful mechanism to date. Utilizing pipeline programs, coupled with understanding the lived experiences underrepresented minority students in health professions programs have is vital to creating environments that yield the best outcomes for these students.
To examine this phenomenon, a phenomenological study was conducted to gain a better understanding of URM students who choose, enroll in, and persist in health professions programs. The study included seven URM students who have participated in a pipeline program and are currently enrolled in a college or university health professions program. These participants were interviewed to better understand how they reflect on their lived experiences and identify what experiences they believe accounted for their decision to enroll in a health professions program. Based on the participants’ descriptions of their lived experiences, four themes and four subthemes emerged. Those themes include: access and participation, curriculum and quality teaching and learning, social and emotional development, and developing social capital. The themes capture the nature of the URM participants’ lived experiences as they saw them and speaks to their experiences from academic and a socio-emotional views.

The results shed some light on the experiences of URM students, their pathways to health professions programs, and the reasoning behind choosing health professions. These findings can provide guidance for those who are involved in health professions pipeline programs, university health professions programs, and high school programs, in order to create stronger learning environments for URM students. As these environments are strengthened, there is a greater potential towards increasing the overall pool of URM candidates in health professions programs, thereby, increasing the overall rate of URM health professionals who can ultimately work to reduce the inequalities found in disadvantaged communities.
This dissertation is dedicated to my parents, thank you for making me believe that Black girls are magic. One of your greatest gifts to me was the magic of believing in myself. And to my son Cameron, always believe in your magic.
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First, I would like to thank God for giving me the perseverance to complete this long journey and the motivation to never give up. To my parents, for providing me with their constant love and support. Your dedication to me is beyond measures, your selflessness beyond words, and your sacrifices beyond limits. I appreciate you more than there are stars in the heavens. And a special thank you to my mom, for keeping the pieces of my life together, and caring for Cameron so I had no worries, without you I would not have succeeded in this process. To Cameron, mommy loves you, thank you for being the sweetest boy in the world. Your smile lights up my world and made this process much easier to endure. Know that anything is possible if you set your mind to believing in it and your actions to achieving it.

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CHAPTER I

INTRODUCTION

In an era of change that has produced such feats as the nation’s first African American President and influx of prominent minorities in politics, entertainment, and business, one would think that minorities would be flourishing in higher education as well. Regrettably, this is not the case. Underrepresented minorities, which include African American, Hispanic, and Native Americans, comprised 31% of the national population in 2016 (Kaiser Family Foundation [KFF], 2016), but only accounted for 23% of the students who received bachelor’s degrees in 2016 (U.S. Department of Education, 2016). Of these, only 13% were employed in science-related occupations (Pew Research Center, 2015).

Over the next few decades, the racial/ethnic composition of our nation will change drastically. According to the United States Census Bureau (2009), the projection for 2050 is that minorities will replace Whites as the numerical majority. As the demographics continue to shift, the needs within that population become greater as the number of people in that group increases. One of these areas of increased need is in health care. As a result of these projected demographics, health professionals from diverse backgrounds are desirable to meet the demands of these increasingly diverse groups. Only a diverse population of health professionals can help meet these needs because access to health care, treatment, and outcomes are directly correlated to race and ethnicity (Komaromy et al., 1996), so health professions fields must improve their efforts to create a significantly more diverse population of personnel. This study focuses on the lived experiences of underrepresented minority students who have completed a high school pipeline program and chosen to enter a university health professions program.
Background

The United States is often referred to as a *melting pot* or the *land of opportunity*. Because of these prospects, a diverse nation has burgeoned and emerged. As the United States continues to become more diverse and increasingly more heterogeneous in its composition, modifications are necessary to keep up with this transformation. The current rate for underrepresented minorities (URMs) in the United States, which include African American, Hispanic, and Native Americans, is 31% (KFF, 2016). By 2045, “people of color will account for over half of the population, with the largest growth occurring among Hispanics” (see Figure 1) (Ubri and Artiga, 2016, p. 3). As the demographics continue to shift, so, too will the needs of these populations, especially in regards to culturally competent health care. Consequently, it will become increasingly more important for these needs to be met by professionals who understand these populations and their diverse backgrounds. Since access to health care, treatment and outcomes directly correlates to race and ethnicity (Komaromy et al., 1996; Saha, 2014), health professions must improve their efforts to create a significantly more diverse population of personnel to meet the health care needs of these changing demographics.
Figure 1. Distribution of U.S. population by race/ethnicity, 2010 and 2045 (KFF, 2016).

In the United States, the underrepresentation of specific racial minority groups occurs in the health professions. Minority health professionals typically chose to provide services to underrepresented groups in underserved communities (Saha, 2014). With the lack of underrepresented minority health professionals, health profession disciplines are grappling with the impact of major demographic changes in the United States population (Institute of Medicine, 2004). These changes include a rapid increase in the proportions of Americans who are non-White, who speak primary languages other than English, and who hold a diverse range of cultural values and beliefs regarding health and health care. Underrepresented minorities have significantly smaller proportions of health professionals when compared with “overrepresented groups,” such as White or Asians (Min & Jang, 2015). “Asians as a whole are not underrepresented in most of the health professions, although some Asian subpopulations, such as Cambodian and Samoan ethnicities, are underrepresented” (Grumbach & Mendoza, 2008, p. 414). According to the Institute of Medicine (2004), efforts to increase the proportions of URMs
in health professions fields, however, have been met with limited success. A gross inequality in educational opportunities for racially and ethnically diverse students hampers the diversification of the health professions' fields. Primary and secondary education for URM students is, on average, far below the quality of education for non-URM students (Saha, 2014). The “supply” of URM students who are well prepared for higher education and advanced study in health professions fields has therefore suffered (Institute of Medicine, 2004).

In recent years, the number of URM students in health profession programs has risen. These student applicants have improved their academic scores and are generally achieving scholastic success. However, the number of URM students in health profession programs is still at an undesirable rate (Mitchell & Lassiter, 2006) at 10% (Baldwin, Woods, & Simmons, 2006; Noonan, Lindon, & Jaitley, 2012). This low representation of URM students could affect the viability of health profession programs (Baldwin & Agho, 2003). Health agencies have begun referring to the underrepresentation as a public health crisis (University of California, 2003), and despite the governmental focus placed on this crisis, there has been little to no increase in the rates (Baldwin et al., 2006; National Conference of State Legislatures [NCSL], 2014). Research into understanding the nature of this deficit may be useful in increasing the rates of URM students enrolled in health profession programs, especially at predominantly White institutions.

**Importance of Diversity in Health Professions**

Scientific evidence supports the importance of diversity in health professions, which demonstrates that diversity in health care is associated with positive outcomes (Institute of Medicine, 2004; Saha, 2014). Diversity improves “access to care for racial and ethnic minority patients, greater patient choice and satisfaction, better patient-provider communication, and better educational experiences for all students while in training” (Institute of Medicine, 2004, p.
5). Clearly, diversity is impactful to both patients and students, and more value should be placed on its importance.

**Access.** Health care professionals who are racially and ethnically diverse often “improve problems of limited minority access to care” (Institute of Medicine, 2004, p. 5). This occurs because these professionals typically practice in both medically and minority-underserved communities. Some examples of this includes physicians who are from URM populations tend to treat minority patients (Komaromy et al., 1996; Saha, 2014), poverty-stricken patients, and much sicker patients (Cantor, Miles, Baker, & Barker, 1996; Moy & Bartman, 1995; Saha, 2014). The same is true for minority dentists and psychologists who also tend to practice in minority communities (Turner & Turner, 1996). Even when URM health professionals come from a higher socioeconomic background, they have higher rates of treating patients from underserved communities (Saha, 2014).

**Patient satisfaction.** Minority patients are more inclined to choose health care professionals of their same racial or ethnic background and are usually more satisfied with the care they receive from these professionals (LaVeist & Nuru-Jeter, 2002; Saha et al., 2000; Saha, 2014), as well as rate the quality of care as higher in these minority health care settings (Cooper-Patrick et al., 1999). For example, although African American physicians only make up between 3% and 5% of the U.S. physician workforce, they regularly care for between 23% and 30% of African American patients (p. 168). In a recent study, patients from underserved groups disproportionately sought treatment from minority physicians (Saha, 2014), showing that over the last 15 years very little has changed.

**Training.** When training settings include racially and ethnically diverse health professionals, cross-cultural training, and cultural competency improve. When student
interactions occur among students from different racial, ethnic, and cultural backgrounds, perspectives broaden and assumptions are challenged (Cohen, 2003; Whitla et al., 2003). This creates an educational setting that is more considerate, impartial, and inclusive (Saha, Guiton, Wimmers, & Wilkerson, 2008). “Despite the importance of diversity in health professions, African Americans, American Indians and Alaska Natives, many Hispanic/Latino populations, and some Asian American (e.g., Hmong and other Southeast Asians) and Pacific Islander groups (e.g., Native Hawaiians) are grossly underrepresented” (Institute of Medicine, 2004, p. 6) in both health professions classrooms and in health professions careers.

**Student Success or Failure**

Studies suggest numerous reasons as to whether or not URM students are successful in colleges and universities, as well as in health profession programs (D’Augelli & Hershberger, 1993; Saenz, Marcoulides, Junn, & Young, 1999; Schwartz & Washington, 2002). The three most common motives for success appear to be high school ranking/grade point average, standard achievement test (SAT) results, and social adjustment (Schwartz & Washington, 2002). Conversely, according to D’Augelli and Hershberger (1993), even though URM students have lower SAT scores than White students, they still have similar grades to that of White students. These authors believe that SAT scores have a discrepancy in their prognostic efficacy regarding White and URM students. This discrepancy is a strong indicator that SAT scores are not an effective gauge of student success for URM students (Jaschik, 2014).

According to Saenz, Marcoulides, Junn, and Young (1999), none of the aforementioned reasons are the actual reasons. These authors believe the basis for URM students' success occurs because of the education level of the student’s father, the student’s understanding of him or herself, and having adequate financial resources. Regarding the need for adequate financial
resources, many students withdraw from school because of the lack of money needed to finish (Baldwin et al, 2006). An example of this as stated by The Journal of Blacks in Higher Education, “69 percent of African Americans who enrolled in college but did not finish said that they left college because of high student loan debt as opposed to 43 percent of White students who cited the same reason” (Cross, 2006, para. 7). Many URM students come from financially disadvantaged homes, and the lack of financial resources is a major barrier to completing college.

**Successful Recruitment and Retention Components**

Recruitment and retention efforts for URM students at colleges and universities can be classified into five major categories: early exposure, pipelines, admissions and policy, minority affairs, and media involvement.

**Early exposure.** Studies suggest that the earlier URM students receive exposure to health profession fields, the more likely they are to enter college with those professions in mind (Baldwin & Agho, 2002; Muncan, Majumder, & Tudose, 2016; Petersdorf, Turner, Nickens, & Ready, 1990; Warshaw, 2016). Several successful recruitment programs have added this component into their programs, specifically Xavier University and Baylor University. These programs have found that through utilizing “collaborative education programs with area schools from elementary to graduate level [they can] address the quality of science education and enhance opportunities for minority students to gain access to careers in the sciences and health professions programs (Petersdorf, Turner, Nickens, & Ready, 1990, p. 665). Additionally, Florida State University College of Medicine has a middle and high school early exposure program for URMs. The goal of the program is to provide students with the necessary skills to be successful in math and science, exposure to health professions fields, create a desire towards
medicine, and for them to be “college ready.” The program yields a 98% college attendance rate, with 65% of those students going into “science, math, or health majors” (Warshaw, 2016, para. 6-7). Without early exposure programming such as these, the numbers of URM in health professions could continue to have little growth.

**Pipelines.** Pipeline programs that work to increase the number of URM students in health professions programs are commonly utilized in higher education. Research suggests that colleges and universities should collaborate with local high schools to create programs for juniors and seniors exposing them to some college content to bridge the educational gap and assist in better preparing these URM students for college coursework (Goodpasture, Lindner, & Thomas, 2007; Grumbach & Mendoza, 2008).

**Admittance and policy.** Admittance and other policies can create additional barriers for URM students to gain entry into colleges and universities. According to the Association of American Medical Colleges (AAMC),

> they [AAMC] developed two important policies in 1970 that are still in effect today. The first policy, focused on underrepresented minorities in medicine, and the second focused on the parity between representation in medicine and the overall population. (Petersdorf et al., 1990, p. 667)

Over 30 years ago, health profession's organization tried implementing policies to increase the number of minorities in the field, yet no real progress occurred. According to Grumbach and Mendoza (2008), admissions policies need to be changed and question whether traditional quantitative measures, such as grades and standardized admissions test, adequately “assess the merits of the applicants” (p. 420-421). These researchers found that “minority students are adversely affected by the social context of these tests” (Grumbach & Mendoza, 2008, p. 421). Perhaps the focus should move away from using these tests as a gauge of student success when it negatively affects minority students. Today, admissions policies are being called into question
through litigations against major universities, like the University of Texas Austin, which creates further strain on creating fair race-conscious admissions policies (*Fisher v. University of Texas*, 2016).

**Minority affairs.** University offices whose primary focus is to assist minorities can be a strong asset to students of color who may need additional support, resources, and encouragement. In a study conducted by Wiggs and Elam (2000), they recommend “Minority Affairs offices should include expanded responsibility in the recruitment, admission, and retention of minority students, and the office should serve as the primary conduit for cooperative efforts between all medical center units” (p. 127). The authors offer three suggestions for the minority affairs office:

1. Establish a Pre-entry/Mentoring Program to address student and college concerns about student progression problems;
2. Sponsor events to provide opportunities for students to interact with minority faculty and leaders in the local community;
3. Increase personal and academic counseling, shadowing opportunities with faculty, and special recruitment visits for accepted students. (Wiggs & Elam, 2000, p. 127)

According to Wiggs and Elam (2000), a focus on these three elements would be beneficial to URM student success and should be a foundational part of colleges and universities that are dedicated to the success of students of color.

**Media involvement.** Lastly, Wiggs and Elam (2000) offer a suggestion for student involvement in recruitment media. “Students were used in promotional publications, television programs and advertising, and other initiatives to illustrate to the public that minorities are contributing members to all health professions and to present role models to young people” (p. 128). This caused the minority students to have a stake in the programs.
Education Pipeline Programs

Pipeline programs are designed to increase the number of underrepresented minorities in college programs that lead to careers in health care. In the context of the education system, pipeline programs serve as conduits for disadvantaged students into postsecondary enrollment in college. This journey typically begins with students aspiring to continue their education beyond high school and ends with either enrollment in or graduation from a four-year college. In some instances, these programs are referred to as K-12 or K-16 pipelines, depending on whether the pipeline’s objective is college enrollment or graduation. In the case of pipelines dedicated to specific disciplines, such as health professions, it begins with early programming reinforcing both mathematics and science curriculums (NCES, 1997; NPA, 2014). According to the National Partnership for Action to End Health Disparities (2014), URMs have less access to a full range of math and science courses than White students, which allows White students to pursue more opportunities for health professions careers.

A pipeline is ostensibly a recruitment mechanism designed to provide access to educational systems for underrepresented groups of students. Pipelines provide URM students with entry points into both education and the workforce by offering additional resources in areas like financial, academic, and advising support (Augustin, 2010). In addition, according to Augustin (2010), enrichment programs are offered to counterbalance any educational insufficiencies, as well as to provide opportunities for exposure to the health care field. Moreover, mentoring, and additional psychosocial support is offered to deal with stress and create community support. Lastly, continuing communication and other mechanisms are provided to meet the needs of pipeline students. Ideally, its design is to decrease as many
barriers for these underrepresented groups in order to equalize the field of additional opportunities that majority groups typically have regarding social capital (p. 66-67).

It is difficult to surmise the exact number of pipeline programs in the country, but according to the Health Resource Services Administration (2012), there were 20 federally funded pipeline programs in 2012. This was an increase from the 16 federally funded pipeline programs during the 2009 inaugural year, but a significant decrease from the programs best year, 2011, with 32 pipeline programs. Typically, the differences in programming numbers are due to shifts in funding at the federal level.

**Pipeline Process**

Pipeline programs are routinely comprised of a five-step process, which includes: (1) aspiration, (2) academic preparation, (3) entrance exams, (4) college applications, and (5) the enrollment process.

1. In step one, aspiration, the student’s achievement of college enrollment is greatly associated with his or her educational aspirations (Hanson, 1994).

2. Step two, academic preparation, whether a student is prepared academically to enroll in college is significantly correlated with his or her being successful in that endeavor (Hanson, 1994). The customary factors used to identify preparedness are class rank, standardized test scores, and high school grade point average (Davidson & Lewis, 1997; Tekian, 1998).

3. Step three and four, include both entrance exams and college applications and are integral to the entire process (Hanson, 1994). However, numerous students who are marginally prepared academically commonly do not make the obligatory preparations to apply (Beckner & Chavez, 1998).
4. Step five, enrollment, is the final step in the process. A student taking the steps to apply for college, does not guarantee their enrollment. Students must meet the qualifications of the institution to which they applied. However, if they did not gain admittance, in all probability, they did not meet the criteria or lacked the resources to attend (Hanson, 1994).

Although, the five-step process by Hanson is somewhat typical of pipeline programs, nationally, numerous variations in the steps occur in other pipeline programs.

**College Programs in Health Profession**

Increasing the number of URMs enrolling and persisting in colleges and universities has historically been challenging due to factors such as legal considerations against diversity quotas, admissions criteria, academic performance, and so on. Many “health professions educational institutions…have worked to increase the preparation and motivation of underrepresented minority students to enter health professions careers” (Institute of Medicine, 2004, p. 14).

Although much work has occurred, there is still a very large deficit in health professions programs. There are various factors to consider when looking at the efficacy of these programs.

**Legal Considerations**

Over the last 15 years, higher education institutions have been fighting against litigation that seeks to ban schools from using race and ethnicity as one of the admissions factors. Litigants have filed suits that deemed the practice of giving any preference to applicants due to race or ethnicity as unconstitutional (Institution of Medicine, 2004; Smith, Nsiah-Kumi, Jones, & Pamies, 2009). The U.S. Supreme Court, in a case against the University of Michigan, *Grutter v. Bollinger* (2003)

declared that the university’s position that achieving a ‘critical mass’ of racial and ethnic diversity…was a compelling interest of the school and the nation, a
rationale that will have far-reaching implications, not just for URM students but also for the nation as a whole. (Institute of Medicine, 2004, p. 3)

However, holistic admission’s policies must be narrowly-tailored and pass strict scrutiny (Grutter vs. Bollinger, 2003). Conversely, the same month the Grutter case was decided, the Supreme Court, in Gratz v. Bollinger (2003), struck down the University of Michigan’s admissions policy that allowed race to be an admission’s criteria. Still, there is a glimmer of hope, this past year yielded a case that states holistic admission’s policy that can meet strict scrutiny with race being a germane factor are not a violation of the 14th Amendments Equal Protection Clause (Fisher v. University of Texas, 2016).

Moreover, “few professional fields will feel the impact of the decision in the” University of Michigan’s case—“and the potential influence of greater levels of racial and ethnic diversity—as profoundly as the health professions” (Institute of Medicine, 2004, p. 3). These disciplines are grappling with the impact of major demographic changes in the United States population, including a rapid increase in the proportions of Americans who are nonwhite, who speak primary languages other than English, and who hold a diverse range of cultural values and beliefs regarding health and health care. (Institute of Medicine, 2004, p. 3)

Efforts to increase the number of URMs in the profession have not been successful as they have been hampered by the inequalities in the educational opportunities for these groups, which cause these students to be ill-prepared for college and the advanced studies needed to have a career in the health professions (Institute of Medicine, 2004; Saha, 2014).

Admissions Criteria

One area of contention for URM students is the admissions criteria for health professions programs. These programs are competitive and have a limited number of slots for students. Due to the large number of applicants applying to these programs, admission committees are
dependent on previous grades and standardized test scores (Institute of Medicine, 2004; Saha, 2014).

The use of standardized test scores as a gauge for academic merit often comes as a disadvantage to URM student applicants. According to the National Research Council (1999), “Some higher education institutions, as well as many among the general public, cling to the belief that admissions tests measure a ‘compelling distillation of academic merit’” (p. 52). However, relying solely on standardized tests does not fully measure the range of abilities necessary to succeed in higher education (Sternberg & Williams, 1997; Urban Universities for Health, 2014), and they do not provide individual distinctions between applicants.

Some health professions programs have revised their admissions policies to place a greater emphasis on more “humanistic factors,” or holistic, like leadership and service (Edwards, Elam, & Wagoner, 2001; Urban University for Health, 2014). This shift is consistent with a growing recognition in health professions fields that these attributes must receive greater attention in the admissions process to maintain professional quality, to ensure that future health professionals are prepared to address societal needs, and to maintain the public’s trust in the integrity and skill of health professionals. (Edwards, Elam, & Wagoner, 2001, p. 1208)

More humanistic, or holistic factors may reduce the admissions barrier for URM applicants who are qualified, which will in turn increase the diversity of health professions students (Garcia, Paterniti, Romano, & Kravaitz, 2003; Urban Universities for Health, 2014). The main goal of utilizing humanistic, or holistic factors is to create diversity, “not only in race, ethnicity, and gender, but also in experience, socioeconomic status, and perspective” (Urban Universities for Health, 2014, p. 3). Health professions programs realize the value of diverse students.
Academic Performance for URMs in Health Professions Programs

Aside from the limitations of admissions policies including the use of standardized test scores for URM students, URMs also face additional issues that can affect their entrance into health professions programs. According to the American Sociological Association (2003), URM students are more likely to “attended schools that are racially and economically segregated, poorly funded, offer few (if any) advanced placement and college preparatory classes, have fewer credentialed teachers, and suffer from a climate of low expectations” (p. 4). Over the past 10 years, this view has not changed, as the blame is continually focused around “inequitable primary and secondary education” (Saha, 2014, p. 291). In addition, certain groups, especially African American and Hispanic students, are not as likely to be exposed or prepared for the rigors of the college science curriculum (Marks & Wilkinson-Lee, 2006; Saha, 2014; Young, 2005). Addressing the issues of the disparities in education is the first step in moving toward the impartiality in opportunities for URMs (Saha, 2014; Young, 2005).

Studies suggest that even URM students who are high academic performers may suppress their performances to meet stereotypes that suggest minorities perform poorer academically (Allen-Ramdial & Campbell, 2014; Steele & Aronson, 1995). Moreover, historically, Latino and African American students drop out of high school at higher rates than Whites, with one in five, one in ten, and one in seventeen respectively (Grumbach & Mendoza, 2008, p. 416). Nearly a decade later, in 2016, 76% of Black students, 79% of Hispanic students, and 88% of White students matriculated through high school (Balingit, 2017). Statistics continue to support the rationale that the educational needs of minority and low-income students are not being met. This is a loss of URM students attending college, and more importantly being enrolled in health professions programs (Grumbach & Mendoza, 2008).
**Student Major Choice**

There are a variety of factors that play a role in students’ choice of their major. Studies show that both gender and race play a role in the choice of major, with African American students more inclined to choose education and social science programs. Asians are more likely to choose high income earning fields like engineering and business, and females less likely to choose science and mathematics fields (Hinrichs, 2015; Ma, 2009).

**Family background.** In addition, both the socioeconomic status of the students’ families and their parents’ expertise and skill sets affects their choice of major for students (Ma, 2009). In addition, studies suggest that high school students are influenced by their parents when selecting a major and are often dependent on the parents’ values and occupations (Baldwin & Agho, 2002). More recent studies suggest that parents’ have a strong influence on students’ majors, regardless of the parents’ occupations (Hartwell, 2012).

**Early exposure.** “Practicing health professionals are the most effective initial source of information for prospective health profession students. Prospective students are more inclined to enroll in health profession educational programs if they are encouraged to do so by a practitioner” (Baldwin & Agho, 2002, p. 1). Furthermore,

> it was observed that most students decide about their career interest at an early age; their first-degree interest is not always the one they eventually pursue in college; and the effect of initial source of information on enrollment decision varied by discipline. (Baldwin & Agho, 2002, p. 1)

Additionally, most students in high school begin thinking about their future careers during senior year, and if they do choose a career earlier than that it is due to “an experience or exposure to someone in that field” (Holden, Rumala, Carson, & Siegel, 2014, p. 5). According to Thurmond and Cregler (1999), the 10 most cited reasons URM students provide for not selecting to pursue health profession are
1. the students thought that non-science programs offered better education or more interest;
2. their reasons for choosing science majors had proved inappropriate;
3. they had found non-science careers were more appealing;
4. they had encountered conceptual difficulties with one or more science subjects;
5. they were turned off by science;
6. they rejected the lifestyle of science careers;
7. their high schools had inadequately prepared them in basic study skills;
8. they were discouraged or had lost confidence due to low grades in early years;
9. they felt poorly taught by science faculty; and
10. they were overwhelmed by the fast paced curriculum. (p. 449)

Additionally, URM students who are undecided when entering college tend to enter humanities or social sciences programs. Since students who are interested in humanities and social science do not tend to switch to hard science fields, students appear to make the decision to enter science related fields before entering college (Syed, Azmitia, & Cooper, 2011). Other findings suggest that health care may be viewed more negatively by students because the field does not have the status of other fields (Holden, Rumala, Carson, & Siegel, 2014).

Syed, Azmitia and Cooper (2011) found that students who began college in a science related major remained in those programs if they were White but switched to humanities or social sciences if they were URM students. Santos, Ortiz, Morales, and Rosales (2007) reported that URM students tend to major in humanities and social sciences because these fields tackle issues related to diversity, culture, and ethnicity, which is more appealing to these students then sciences fields. So, fields that deal with more relatable issues for URM students seems to be more predictive than the major chosen when entering college for URMs selecting their major.

**Problem Statement**

Underrepresented minorities in health care settings can help increase minority patient access and satisfaction and improve the cultural competency of professionals in health care (Institute of Medicine, 2004). Although, URM professionals are making marginal gains in
representation in the health care workforce, the disproportionate number of URM students in health profession programs appears to be the overarching problem regarding the number of underrepresented minorities in health care professions. This marginal gain is due to the utilization of student recruitment pipelines (Sullivan, 2004); therefore, improving the number of URM students enrolled in health professions programs is essential to improving the representation of URM health professionals in the workforce. In looking at what experiences URM students are having that brought them into health professions programs and additionally, what appear to be the barriers may be essential to improving representation.

**Practical Problem Statement**

There is a real need for URMs in the health professions, as well as in the health profession programs at colleges and universities. Researchers and experts have proposed solutions pertaining to the lack of diversity in these fields and programs including recruitment and admittance policies (Gabard, 2007; Urban University for Health, 2014), and government programming (Health Resource Services Administration, 2012). Gabard (2007) proposed that schools should be more aggressive in admitting and recruiting students from minority communities through the use of affirmative action. The 2003 U.S. Supreme Court ruling, *Grutter v. Bollinger*, not only supports this approach but also gives guidance for implementation. Under the general category of admission strategies, two strategies are proposed: (1) a defensible structure for admission using race/ethnicity as a factor and (2) expanded criteria for student selection. Under recruitment strategies, four strategies are offered: (1) outreach to kindergarten through 12th grade, (2) better informing school career counselors, (3) advertising possibilities, and (4) community involvement through local school boards. (p. 166)

These strategies are still relevant for recruitment and retention of minority students today. Schools must be cautious using any policies allowing race as selection criteria. In 2003, two cases were decided that are in direct contrast of one another, one allows the use of race as a
germane factor (\textit{Grutter v. Bollinger}, 2003), and the other struck down the use of race in admissions (\textit{Gratz v. Bollinger}, 2003). In as recent as 2016, admissions criteria are still being scrutinized and argued in the U.S. Supreme Court. In \textit{Fischer v University of Texas Austin} (2016), a student claimed her 14\textsuperscript{th} Amendment right was violated because race was used as a factor in the university’s holistic admission policy. St. John, Hu, Simmons, Carter, and Weber (2004) believe the liability is on the policymakers. These authors argue that “if policymakers are serious about the goal of raising attainment for all students in their states, it is important to develop strategies for promoting diversity within high-demand programs in predominantly White colleges” (p. 215). They also contend that it is important that higher education researchers begin to explore a more complete range of questions about the ways diverse groups make educational choices. According to St. John et al. (2004), “This requires not only an adaptation of research designs but also a recasting of the interpretive lenses we use to examine these choices” (p. 220). Additionally, with the onset of affirmative action bans such as Proposal 2, affected universities are seeing a decrease in the diversity of their student body, which necessitates university administrators to create proactive diversity policies (Garces & Cogburn, 2015). Conversely, others feel that the onus is on the student, that is, it is the student’s responsibility to perform academically in high school in order to pave the way for colleges and universities to select them for their programming (Jewell & Riddle, 2005).

\textbf{Research Problem Statement}

Pipeline programs have been around since the 1960s, which means considerable research about their efficacy (AAMC, 2010; Carline & Patterson, 2003; Markel, Woolfolk, & Inglehart, 2008; Smith et al., 2009; Terrell & Beaudreau, 2003; Sullivan, 2004). Much of the literature focuses on how to attract and retain more URM students into health profession programs (i.e.
Another well-developed line of research focuses on factors associated with persistence in higher education for URM students. Less attention has been allocated to the ways in which URM students understand and interpret their own experiences leading up to entering into health profession education programs. In addition, further study is needed to better understand the ways URM students are persisting through the health programs to degree completion. Research in these two areas would be helpful to educators and designers of pipeline programs for URM students. They could use the insights gained to plan experiences that might replicate the most encouraging, supportive, and affirming experiences of those URM students who have entered into and successfully completed health profession degree programs. However, since the number of URMs in health professions has not increased to a level that reflects their proportion of the general population, more work is needed in this area.

**Purpose Statement and Research Questions**

The purpose of this phenomenological study is to explore the lived experiences of URM students coming from a health profession pipeline program who also chose to enroll in a degree-seeking health profession program. The overarching question that guided this study was: How do URM students who participated in a pipeline program reflect on their lived experiences and what experiences do they believe accounted for their decision to enroll in a higher education health professions program? Additional subquestions included:

1) How did the URM students’ interest in the health professions begin?

2) How do URM students develop and maintain their interest in the health profession?

3) What led URM students to actually decide to enroll in the health professions program?

   Along the way, what were the inhibitors and what were contributors to enrolling?
Significance of the Study

This study is important to educators, administrators, and students. For educators, the insights gained from URM students who pursued health profession degrees could help educators create learning environments that are more conducive to the increased success and retention of URM students. Similarly, administrators could gain understandings from URM students who are thriving in health professions programs and use them to create health programs that are more appealing to these students. Ultimately, URM students can benefit from any insights gained from those students who have gone before them, as those insights become available to the field and are used to enhance support systems. With the enhancement of these support systems, they can be utilized to facilitate and strengthen health profession program recruitment and retention strategies with an eye to improving both interest and success rates for URM students.

Methods Overview

This study utilized a qualitative approach, which according to Creswell (2008):

is an inquiry approach useful for exploring and understanding a central phenomenon. To learn about this phenomenon, the inquirer asks participants broad, general questions, collects the detailed views of participants in the form of words or images, and analyzes the information for description and theme. (p. 645)

Once the data is collected, “the researcher interprets the meaning of the information, drawing on personal reflections and past research” (p. 645).

Specifically, this study was a phenomenological study, which “describes the meaning for several individuals of their lived experiences of a concept or a phenomenon” (Creswell, 2007, p. 57). This approach “aims to provide a rich textured description of lived experiences” (Finlay, 2008, p. 1) in order “to reduce [these] individual experiences with a phenomenon to a description of the universal essence” (Creswell, 2007, p. 58).
Qualitative research can include an element of trustworthiness. Lincoln and Guba (1985) suggest four criteria to assist in the achievement of trustworthiness: credibility, transferability, dependability, and confirmability. In order to achieve credibility, a genuine depiction of the investigated phenomenon occurs. Transferability occurs by providing adequate detail of the context, so that the reader can decide whether the environment is similar to a situation he or she is familiar with or if the findings are applicable to a different setting. Dependability is difficult to achieve, but the researcher should attempt to allow a future repeat of the study. Lastly, the researcher achieves confirmability by showing that the results came from the data and not their own biases.

There are several variants of phenomenology. Transcendental phenomenology was chosen for this study because it focuses more on how the participants describe their experiences and less on the researcher’s interpretation (Moukstakas, 1994). This is important because the participants’ experiences are at the heart of this study and are used to describe the essence of their experiences.

**Conceptual Framework**

Certain identifiable factors influence URM students’ decisions to pursue health care profession educational programs. These factors include family background (Baldwin & Agho, 2002; Hartwell, 2012); early exposure to health care professionals (Baldwin & Agho, 2012; Holden, Rumala, Carson, & Siegel, 2014); parent, teacher, or school educational expectations (Hartwell, 2012), and participation as a student in a health professions pipeline program (NCES, 1997; NPA, 2014). While this empirical research offers insights into the general factors that may influence an URM student to pursue education in the health care professions, it stops short of providing a strong understanding of why these programs still lack URM representation. By
delving deeper into URM students’ family background, including their parents educational background and encouragement of the student; early exposure to health professions, including positive encounters and parents being a health professional; educational experiences, including interaction with peers and teachers and school engagement; and participation in pipeline programs, including program courses and the students’ experiences, an understanding could be discovered on whether or not these areas influenced URM subjects in this study. Ultimately, the goal was to strengthen the supply, diversity, and distribution of the health professions' workforce. Additionally, the findings from this study were broken down further by comparing them to Tinto’s student departure model, as revised by Guiffrida to reflect more of a cultural presence, to shed an additional light on the influences and further explore this phenomenon that determined whether these minority students persisted with their education in these health profession programs (see Figure 2).
Summary

Increasing the number of underrepresented minorities in the health care workforce is essential to ensuring the appropriate delivery of care for the ever-increasingly diverse U.S. population. Evidence shows that racial and ethnic health professionals have a stronger tendency
than White health professionals to provide access to health care to racial, ethnic, and low-income populations. Greater diversity among health professionals would not only improve access and health for these populations, but also for the public in general. Therefore, increasing the underrepresented minority enrollment in health professions programs is needed.

Higher education leaders must confront a number of factors to make admissions more equitable. A review of the literature shows the nation struggling to find the right prescription for creating educational equity for URMs. The factors have included legal proceedings and the elimination of affirmative action laws, and academic admissions policies that focus on standardized test scores and grade point averages without looking at humanistic qualities needed in health care professions.

Nevertheless, despite the conflicts, URMs have been able to navigate their way into the nation's educational system. They have performed successfully even though the odds are against them in terms of unpreparedness and the lack of equivalent resources. In the end, what steps the nation and academic institutions will take to increase the diversity in health professions programs is unclear but URM pipelines, when utilized properly have proven to increase the numbers of URMs in both classrooms and health care settings. This qualitative study will allow URM students to describe their experiences as they relate to their journey towards entering into health professions programs and provide insight into their successes and hindrances.
CHAPTER II
LITERATURE REVIEW

This chapter presents the literature regarding health care in the United States as it pertains to the importance of a diverse workforce, the shortage of diversity within the health professions, and the underrepresentation of specific groups in health professions. In addition, the discussion of information regarding health profession programs and the issues surrounding the enrollment of underrepresented populations in these programs, as well as the difficulties with recruitment and retention of these students. Lastly, literature surrounding pipeline programs and the limited success of these programs on increasing underrepresented minorities in health professions programs and careers is examined. But first, I will start with a historical perspective on minorities in health professions to give context to the issue.

Brief History of Bias in Health Care

Although disparities in health professions have occurred in all URM populations, the best historical documentation relates to the history of African Americans. When taking a closer look at this group’s history, there are overarching themes of inequality and exclusion within the health system (Sullivan, 2004). In the 1600’s, African Americans had their first encounters with White health care, during their inspection and treatment by maritime surgeons before their journey to America as slaves. Because slaves were viewed as property, they only received medical care when needed to keep them working. In retrospect, the U.S. health care system was formed on the foundations of “racial inferiority, White economic interests” (Sullivan, 2004, p. 33), and human value as described by Whites. As time progressed through the post-reconstruction period and into the nineteenth century, health systems were governed by Jim Crow laws that subjugated African Americans and made them inferior to Whites (Sullivan, 2004).
The unscientific viewpoints of the racial inferiority of African Americans flourished in the early nineteenth century and became part of the doctrines that shaped American medical school curricula. This was widely propagated in medical textbooks and peer-reviewed medical journals, which eventually gave way to the medical mistreatment, abuse, and neglect of non-White populations, especially Native Americans and African Americans (Byrd & Clayton, 2000).

At the beginning of the twentieth century, two health care systems existed: one for Whites and one for non-Whites. The majority of African Americans sought care at health facilities that were specifically designated for “negroes.” As for hospitals that did serve African Americans, the number of beds were limited and usually provided treatment in outbuildings, attics, basements, “colored” wards, and required entrance through the back door of the facility (Byrd & Clayton, 2000). In addition to the inferior clinical setting, all the items used, from the gowns to the thermometers, received the label “colored.” White physicians would not treat African American patients, perceiving it to be a waste of time and resources to do so, and if they did treat African American patients, they refused to consult African American physicians regarding care (Byrd & Clayton, 2002). Moreover, hospital policies prohibited African American providers from practicing, including physicians, nurses, and dentists (Sullivan, 2004).

The past brought about several cases of unethical treatment by health care professionals towards African Americans. In North Carolina, from 1929-1975, poor African American women received forced sterilization, which was the only form of birth control available in an insufficient health care system. Most of the women who received this procedure were unaware that sterilization occurred because the state Eugenics board deemed the women “feebleminded” and “unfit” to reproduce. The procedures occurred without their consent (Schoen, 2001).
In addition, the Tuskegee Syphilis Study started in 1929, this study is the lengthiest nontherapeutic experiment on humans in medical history (Jones, 1981). The study involved 399 African American men with syphilis; in this study researchers wanted to see the longitudinal effects and progression of the disease. Even with the invention of penicillin in 1951, which could cure syphilis, the men in the study did not receive appropriate treatment. In addition, the men were never educated on the transmission of the disease, and therefore, many infected their wives and subsequently their children, as well. The study continued for more than 40 years and only became public in the 1970s after most of the men had died (Jones, 1981). In 1976, Jones interviewed Dr. Jon Heller, the former Director of Venereal Diseases from the U.S. Public Health Services who held the position from 1943-1948. Dr. Heller stated that “the men’s status did not warrant ethical debate. They were subjects, not patients; clinical material, not sick people” (Jones, 1981, p. 179). This statement reflects the sentiment of the times regarding African Americans.

This subordinate societal view of African Americans also included education. During the 1800s, most higher education institutions denied access to African Americans, which included health professions' schools, so most received their education at historically black colleges and universities. In addition to the barriers associated with health profession education, health professions associations also barred African Americans (Sullivan, 2004). For instance, medical societies, on both the national and state level, barred “negroes” from becoming members even though it was a requirement of practicing in hospitals (Sullivan, 2004, p. 34). The American Medical Association (AMA), during the early 1900s, controlled the medical profession by dominating the “medical licensing, education, postgraduate training, the hospital industry, and the biomedical research infrastructure” (Byrd & Clayton, 2002, p. 278). Even though the AMA
was created in 1847, it did not allow Black doctors to join until 1968, which was two years after the ending of "racial segregation in medical schools" (Byrd & Clayton, 2002, p. 86-87).

Furthermore, other health professions, such as dentistry and nursing had similar discriminatory experiences to that of African American physicians (Hine, 1989).

Shortage of URMs in Health Care

Currently, a third of Americans are part of a URM category, with 30% being African American, Hispanic, and Native American. For children and young adults under 20 years of age, the number rises to 43%. Despite these numbers, the groups represent merely “12.3% of doctors, 7% of dentists, 10% of pharmacists, and 11% of registered nurses” (The Sullivan Alliance, 2013, para. 5).

The National Healthcare Disparities Report from the Agency for Healthcare Research and Quality (AHRQ) (2012) emphasized the inadequacy of workplace diversity and tracked it amongst “physicians and surgeons, registered nurses, licensed practical and licensed vocational nurses, dentists, dental hygienists, dental assistants, pharmacists, occupational therapists, physical therapists, and speech-language pathologists” (p. 19). In general, the report stated that for most health professions, there is an overrepresentation of Asians and Whites, whereas there is an underrepresentation of Hispanics and Blacks (AHRQ, 2012, p. 19). Remarkably, there is an overrepresentation of Blacks within the licensed practical and vocational nursing professions, and for Hispanics in the dental assistant profession (AHRQ, 2012, p. 19). The report also emphasized that these professions involve the least amount of education and produce the lowest annual median wages.

Even though the latest demographics figures reveal the country’s ever-growing diversity (U.S. Census, 2010), it also confirms that the health care profession is not keeping pace with the
changing demographics. With respect to the data from the 2010 U.S. census demographics details, the Hispanic population rose from 35.3 in 2000 to 50.5 million in 2010, accounting for roughly 16% of the individuals in this country. Nonetheless, regardless of this change in demographics, Hispanics comprise about 5% of medical doctors (American Medical Association, 2010). In terms of other racial categories, of those practicing medicine, only 12.2% are Asian, 3.5% African American, and 0.16% Native/Alaska Local (American Healthcare Company, 2010). With regard to nursing, African American people constitute 5.4% of registered nurses (approximately 12% of the U.S. population), and Hispanics constitute 3.6% of registered nurses (while over 15% of the U.S. population) (Robert Wood Johnson Foundation, 2010).

**Importance of Diversity in Health Professions**

Improving racial and ethnic diversity amongst health professionals is imperative because diversity is correlated with improved access to care for racial and ethnic minority patients, greater patient choice and satisfaction, and improved educational experiences for health professions students (Institute of Medicine, 2004).

**Access**

Access to health care remains a contributing factor in regards to health disparities within URM populations and is perpetuated by the lack of diverse practitioners practicing in underserved communities (Institute of Medicine, 2004; NCSL, 2014; Saha, 2014). In order to provide health care access, it involves “the timely use of personal health services to achieve the best health outcomes” (Institute of Medicine, 1993, p. 33). This requires three separate steps:

1. Gaining entry into the health care system.
2. Getting access to sites of care where patients can receive needed services.
3. Finding providers who meet the needs of individual patients and with whom patients can develop a relationship based on mutual communication and trust is important. (Institute of Medicine, 1993, pp. 31-33)
Health care professionals who are racially and ethnically diverse “improve problems of limited minority access to care” by being considerably more inclined to practice in both medically and minority underserved communities (Institute of Medicine, 2004, p. 5). Some examples of this includes physicians who are from URM populations are more likely to treat minority patients (Komaromy et al., 1996; Saha, 2014), poverty-stricken patients, and much sicker patients (Cantor, Miles, Baker, & Barker, 1996; Moy & Bartman, 1995; Saha, 2014). Moreover, minority dentist and psychologists also tend to practice in minority communities (NCLS, 2014; Turner & Turner, 1996).

Bach, Pham, Schrag, Tate, and Hargraves (2004) studied primary care physicians and found that African American physicians composed 12.5% of physicians in the same locations where African Americans looked for care. This still holds true today that minority physicians provide access to care in communities that need it most (Marrast, Zallman, Woolhandler, Bor, & McCormick, 2014). In another study, Saha et al. (2000) found that African American patients typically select African American physicians regardless of where the physician’s office is located. In addition, this trend occurred in other ethnic minorities as well (Saha, Taggart, Komaromy, & Bindman, 2000). In a 2001 national survey, 24.5% of African American patients and 27.6% of Hispanics patients consistently saw/chose physicians from their same racial group, which is not indicative of the physician numbers of these racial groups (Saha, Arbelaez, & Cooper, 2003). Lastly, the survey showed that minority physicians unequally provide care for patients of the same racial and ethnic groups and other minority groups as well (Brotherton, Stoddard, & Tang, 2000; Gray & Stoddard, 1997; Marrast, Zallman, Woolhandler, Bor, & McCormick, 2014; Moy & Bartman, 1995).
Minority health care providers typically serve other disadvantaged populations disproportionately more than majority health care providers (Johnson, Lloyd, & Miller, 1987; Keith, Bell, Swanson, & Williams, 1985; Marrast, Zallman, Woolhandler, Bor, & McCormick, 2014; Moy & Bartman, 1995; Pathman & Konrad, 1996; Penn et al., 1986). Additionally, minority physicians are more likely to provide care to impoverished patients (Cantor, Miles, Baker, & Barker, 1996; Johnson et al., 1987; Kormaromy et al., 1996; Moy & Bartman, 1995; Rabinowitz, Diamond, Veloski & Gayle, 2000; Xu et al., 1987), those on public assistance or Medicaid (Brotherton, Stoddard, & Tang, 2000; Keith et al., 1985; Kormaromy et al., 1996; Perloff, Kletke, Fosset, & Banks, 1997; Rabinowitz et al., 2000; Xu et al., 1987), those who were uninsured (Brotherton, Stoddard, & Tang, 2000; Moy & Bartman, 1995; Rabinowitz et al., 2000), and those living in limited access or shortage areas (Keith et al., 1985; Kormaromy et al., 1996; Rabinowitz et al., 2000) than majority physicians. Because lack of access is a contributor to health disparities for URMs, having health care professionals who are willing to care for these populations is essential to helping to decrease access issues. Some research suggests that minority health professionals serve in minority and underserved communities because they are not able to serve in other communities because of low academic performance that jeopardizes their ability to compete for positions in other affluent communities (Back, Pham, Schrag, Tate, & Hargraves, 2004). Conversely, two studies from the University of California at San Diego and San Francisco revealed that minority graduates from these prominent medical schools chose to serve in minority and underserved communities (Komaromy et al., 1996; Penn et al., 1986).

Several studies have found that in providing care for underserved populations, race is more of an indicator than socioeconomic background in choosing to care for underserved populations (Brotherton, Stoddard, & Tang, 2000; Cantor, Miles, Baker, & Barker, 1996; Saha,
A national sample of pediatricians showed that regardless of their socioeconomic background, URM physicians cared for uninsured and Medicaid patients more often than non-minority physicians. To take it a step further, URM pediatricians from fairly privileged upbringings meaning having professional parents or at a minimum a college degree provided care for more Medicaid and uninsured patients than disadvantaged non-minority physicians (Brotherton, Stoddard, & Tang, 2000; Saha, 2014). Saha (2014) coined this the “service commitment” because “URM students from the highest SES categories serve the underserved” more than “white students from the lowest SES groups” (p. 292). This may be in part because race does not change even when SES does, and URM providers cannot escape discrimination and exclusion even when they change their SES status (Saha, 2014). This may increase their willingness to care for URM patients. These types of findings suggest that programs that focus on race and ethnicity may have more of an impact on increasing the number of providers delivering health care to underserved populations (Brotherton, Stoddard, & Tang, 2000; Saha, 2014) since URM providers tend to care for URM patients.

**Patient outcomes.** Saha et al. (1999) conducted a national survey and found that race concordance between health care providers and patients was correlated with having fewer unmet health needs and more self-reported preventive care for African Americans but was not for Latinos. Additionally, two other studies suggested that race concordance had no effect on appropriate preventive care or disease management care for African Americans, Latinos or Asians (Saha et al., 2003). Conversely, other studies show a positive increase that is associated with race concordance (Meghani, Brooks, Gipson-Hones, Waite, Whitfield-Harris, & Deatrick, 2009).
**Advocacy.** More diversity amid health care providers may increase the focus on the delivery of care. In particular, racially and ethnically diverse and socioeconomically disadvantaged health care providers may be more prone to advocate for and implement policies and programs that enhance the care, expand access or improve the quality of delivery for underprivileged groups of individuals (DHHS, 2006). In addition, more focus and resources dedicated to advocacy, research or service might occur in locales related to minority and underprivileged individuals in order to enhance their health (DHHS, 2006).

**Patient Satisfaction**

Minority patients are more inclined to choose health care professionals of their same race or ethnic background and are usually more satisfied with the care they receive from these professionals (LaVeist & Nuru-Jeter, 2002; Saha et al., 2000). They also rate the quality of care higher in minority health care settings (Cooper-Patrick et al., 1999). For example, although African American physicians only account for 3% to 5% of the U.S. physician workforce, they regularly care for between 23% to 30% of African American patients (p. 168).

Several studies have found that better interpersonal care was due to race concordance (Chen, Fryer, Phillips, Wilson, & Pathman, 2005; Cooper-Patrick et al., 1999; Cooper et al., 2003; Lin & Guan, 2002; Malat, 2001; Porter & Beuf, 1994; Saha et al., 1999;). Another study investigated the influence of race concordance on communication quality between patients and providers (Cooper, Roter, Johnson, Ford, Steinwachs, & Powe, 2003). During this study, Cooper and his associates recorded and analyzed the encounters between patients and providers and found that the race concordance between physician and patient was correlated with extended visits and noticeably improved communication. Additionally, patients had increased satisfaction in their visit and ranked the physician as cultivating more patient and physician relationships in
race concordance appointments. Remarkably, the researchers discovered that the variations in interaction and the variations in patients’ ratings of the encounter were separate from each other (e.g., accounting for the variations in interaction did not describe any of the variations in patients’ ratings of their physicians). This discovery is significant in that it demonstrates that the agreement of race is associated not only with improved communication, but also with other unmeasured factors of the patient and provider experience that cause greater individual ratings of the quality of health care (Cooper, et al., 2003). This indicates that although communication training for health care professionals may perhaps strengthen the quality of care for minority patients, it cannot serve as an alternative for increasing the number of minority health care professionals. This would improve minority patients’ capability to be cared for by providers of the same race as them, if they choose to (Cooper, et al., 2003).

**Culturally Competent Care/Training**

“Despite the importance of diversity in health professions, African Americans, American Indians and Alaska Natives, many Hispanic/Latino populations, and some Asian American (e.g., Hmong and other Southeast Asians) and Pacific Islander groups (e.g., Native Hawaiians) are grossly underrepresented” (Institute of Medicine, 2004, p. 6) in both health professions classrooms and in health professions careers. Cross-cultural training and cultural competency improve training settings when racially and ethnically diverse health professionals are included. When student interactions occur among students with diverse racial, ethnic, and cultural backgrounds, their perceptions are broadened and assumptions are challenged (Cohen, 2003; NCLS, 2014; Whitla et al., 2003).

Saha (2014) states that URM representation will not only assist in meeting public health needs in the United States, but it will also create strong learning environments, and trustworthy
culturally competent practitioners. In a report by the American Dental Education Association (ADEA), they suggest that it is the responsibility of dental schools to recruit minority students and train all the dental students in diversity. The ADEA went on to say that dental schools are obligated to adequately prepare dentists to meet the needs of the diverse patients they will encounter (Haden et al., 2003).

**Language Barriers.** Four studies of Latino populations examined the connection between the language concordance of patients and physicians and the interpersonal quality of care, specifically communication (Fernandez et al., 2004; Lee, Batal, Maselli & Kutner, 2002; Perez-Stable, Napoes-Springer, & Miramontes, 1997; Seijo, Gomez, & Freidenberg, 1991). Three of the studies suggested that language agreement positively correlated with interpersonal quality of care (Fernandez et al., 2004; Lee et al., 2002; Seijo et al., 1991). Another study assessed the effect of language agreement of physicians and patients on the patient’s understanding of medical information (Wilson, Chen, Grumbach, Wang, & Fernandez, 2005). A survey was administered to California residents who spoke one of eleven non-English languages, individuals who are not proficient in English had a more difficult time understanding medical situations and medication labels (Wilson et al., 2005).

Several studies have assessed language concordance and health outcomes (Lasater, Davidson, Steiner, & Mehler, 2001; Wilson et al., 2005). Lasater et al. (2001) studied, a group of Hispanic diabetic patients found that language agreement between a patient and primary care provider caused patients to have better glycemic control even though less than half of the providers were actually Hispanic.

Perez-Stable et al. (1997) also found that patients reported a better health status when there was language agreement with their providers. Lastly, in the aforementioned study of non-
English speaking Californians reported, they had issues understanding their medication instructions and this was more likely in patients that did not have language concordance with their providers. Patients with limited English proficiency that had a language disconnect with their provider were no more likely than their English proficient cohorts to have experienced a harmful reaction to medication (Wilson et al., 2005).

**Research.** URM practitioners tend to conduct research in areas that impact minorities, which can have an impact on decreasing health disparities. Supporting evidence comes from the university setting, where women and minority faculty are much more likely to pursue research agendas that expand our knowledge of ethnic/race and women/gender issues. An increase in minorities conducting research would help to decrease some of our most unmanageable health problems that disproportionately affect minorities (Gabard, 2007; Terrell & Beaudreau, 2003). The more URM practitioners in health professions fields, the greater opportunity for increased research in areas that impact minorities the most.

**Government Initiatives**

Health disparities is an area many federal agencies are seeking to improve. One initiative that has been identified to assist in decreasing health disparities is improving the lack of URM representation in health care professions. “The U.S. Department of Health and Human Services Action Plan to Reduce Racial and Ethnic Health Disparities (HHS Disparities Action Plan) is the most comprehensive federal commitment to date for reducing, and eventually eliminating disparities in health and health care” (U.S. Department of Health, 2015, para. 2). This Action Plan is a coordinated effort for federal departments and offices to evaluate and restructure programs and policies and develop combined methods and “evidence-based programs” promoting the betterment of all Americans’ health (U.S. Department of Health, 2015, para. 2).
Goal II of this Action Plan is dedicated to increasing the health care workforce diversity. Evidence suggests that patient-provider relationships are strengthened by shared cultures and values and that provider lack of knowledge about culture and language can lead to misunderstandings, as well as mistrust by the racial and ethnic minority patient (U.S. Department of Health, 2015). When minority patients have experiences with minority providers of the same race, ethnicity, or culture they report greater satisfaction. This evidence provides a strong rationale for the “need for health professionals with diverse backgrounds and improved competencies to care for and serve racial and ethnic minority populations” (U.S. Department of Health, 2015, para. 60), so there needs to be an increase in the number and diversity of health care professionals and cultural and linguistic knowledge as well. The plan outlines accomplishing this by enhancing National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care, which occurred in 2013, but continues to be reinforced in new national policies and legislation; enhancing Medical Schools Curriculum; and Promoting Effective Communication in Health Care Organizations through the Office for Civil Rights and Centers for Medicare and Medicaid Services. Additionally, the plan promotes the use of community health workers in Hispanic community and has teamed up with the National Hispanic Council on Aging. Furthermore, HHS is increasing the URM health care and public health workforce diversity through providing additional opportunities like the HRSA initiative, which provides both loan repayment and scholarship support to health professionals who provide services in underserved communities. Health Resources and Services Administration reports that more than half of the recipients are from URM groups; the Centers for Disease Control and Prevention Undergraduate Public Health Scholars Program; and the Historically Black Colleges and Universities Center for Excellence in Behavioral Health program. Lastly, there is an
increase in training and education opportunities for American Indians and Alaska Natives, as well (U.S. Department of Health, 2015).

HHS is considering URM increases in workforce diversity as part of the growing concern for decreasing health disparities. This focus has also been included in the Affordable Care Act and Healthy People 2020 (U.S. Department of Health, 2015).

**Student Recruitment and Retention**

The recruitment and retention of students is an area of concern for all colleges and universities, and a major area of focus for administrators. URM students have lower completion rates than other groups, which exacerbates the problem of increasing the number of URM students in health programs. The consequences of these students failing to complete their college degrees will negatively affect both the student personally and society as a whole (Baum & Payea, 2005). Those consequences include: decrease in annual individual income, the waste of time invested in the pursuit of the uncompleted degree, and the financial implications of accrued debt connected with tuition costs (Baum & Payea, 2005).

In addition to the aforementioned consequences, additional consequences exist. Due to our complex cultural, societal, and political environments, it is estimated that approximately 80% of high school graduates will need to attain some level of higher education to succeed (McCabe, 2000). Consequently, forecasts indicate that the U.S. will not have enough college-educated workers to maintain its current level of economic and social development, which will negatively influence the nation’s economical position (Kelly, 2005).

Moreover, URM graduation completion rates are lower than other groups’ rates (Museus & Quaye, 2009), which further complicates the future scarcity of college-educated personnel, especially in health care. URM students need fair access to college education in order to be
successful, as their graduation rates are distinctively lower than majority groups (Museus & Quaye, 2009). The importance of cultivating college student achievement, especially for URM students, has never been more imperative (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006).

**Enrollment Disparities**

Despite the gains that URMs have made in increasing their rates of enrollment in higher education institutions, the rates remain disproportionate to Whites. For example, from 1980 to 2008 for 18- to 24-year-olds, African Americans increased college enrollment rates from 20% to 32%, Hispanics increased from 16% to 26%, whereas Whites increased from 28% to 44% (U.S. Department of Education, 2010). According to former Spelman College president, Beverly Daniel Tatum, “While we see forward movement, it is incremental and not transformational.” She went on to say that “preparation and encouragement should begin in elementary and high schools,” and that “students of color often have limited access to the courses they need and college guidance” (Marklein, 2006, para. 5). Faculty and staff need to be aware and better prepared for handling URM students, as well as the potential gap that may be present when these students begin college. URM students may need extra guidance and direction upon entering college and additional resources in order to achieve success.

**Retention**

Another issue for URM student success is retaining and graduating URM students once they enroll in higher education institutions. Some of the statistics associated with the non-completion of college in six years are approximately 33% of White students will not complete their bachelor’s degree, as compared with over 50% for African American and Latino students (Beckner et al., 2002). So how do we retain URM students, especially at colleges and universities? According to Vincent Tinto, a Syracuse University Professor,
Much of the problem can be attributed to educational preparation, social background, and an atmosphere of racism and discrimination. You’re asking colleges to make up for years of disadvantage. Universities lack the tools required to retain African American students, for instance: cultural and social support, mentoring, a more ethnocentric curricula or a real commitment from the institution. (Townsend, 1994, p. 85)

The University of South Carolina (USC) and the University of Virginia (UVA) have both radically increased their retention rates by creating programs that provide support for URM students. USC has a first-year student seminar that provides education on the expectations at the university, mentoring and counseling, and it promotes African American culture and history. UVA also has mentoring and counseling, as well as, two orientations called Harambee, “getting together in Swahili,” one to orient African Americans to the university, the other to celebrate their first semester achievements (Townsend, 1994, p. 87; UVA, 2018a). In addition, there are several programs for Hispanic students, such as Hispanic/Latinx Peer Mentoring Program, Peer Mentoring Program (UVA, 2018b), as well as La Casa Bolivar, which is a student resident hall dedicated to Spanish speaking students. Native Americans have a student organization called American Indian Student Union that conducts several activities throughout the year (UVA, 2013). The more an URM student is made to feel comfortable, supported, and that they can be successful, the more likely they will be to return to the institution that reinforces these types of attributes. Creating programming for URM students appears to be the trend in higher education.

**Persistence**

In the area of persistence for URM students in higher education, a gap exists in the attainment of degrees, as there is an increased probability that URMs will leave college. Various studies have found numerous reasons as to why URM students do not persists, which includes cultural influences, high school influences, college choice, familial influences, and financial aid, to name a few.
**Cultural influences.** Museus and Quaye (2009) conducted a study utilizing and revising Kuh and Love’s (2000) eight cultural propositions as their conceptual framework. The eight propositions include:

1. students’ college experiences and decisions are mediated by a student’s cultural meaning-making system;
2. students’ precollege cultures determine the importance they associate with attending and graduation from college;
3. knowledge of both students’ precollege cultures and campus cultures in necessary to understand their abilities to navigate the campus cultural milieu;
4. the likelihood of persistence is inversely related to the incongruence between students’ precollege and campus cultures;
5. students who travel a long cultural distance must either acclimate to the dominant campus culture or joining one or more cultural enclaves to succeed;
6. the among of time students spend in their cultures of origin during their college career is positively associated with cultural stress and eventual student departure;
7. the extent and intensity of students’ connections with their academic program and affinity groups are positively related to persistence;
8. and students are more likely to persist if they belong to some or more cultural enclaves, especially if those enclaves value achievement and persistence. (p. 73)

Museus and Quaye’s (2009) findings suggested the precollege background of URM students determined persistence and satisfaction in college. If a student came from a predominately White background, they had a much easier time acclimating to college in areas such as cultural dissonance, feelings of culture shock, the shaping of their perspectives regarding diversity and inclusion, and their involvement in campus activities, then the URM students from predominately urban environments. In addition, student expectations shaped URM students’ persistence. If the student expected an environment different from their own, expected different races and ethnicities, and even wanted the different experience with these races and ethnicities, the more satisfied they were within their college environment. Lastly, the development of cultural agents, which include faculty and peers, was vital to student success. These cultural agents served as cultural translators, mediators, and models that made the college environment
more manageable and easier to navigate. They help with navigating the campus cultural norms, promoted socialization, and helped to provide cultural validation for URM students (Museus & Quaye, 2009).

Cultural influences, which include cultural integrity, cultural perspectives, and cultural agents and bicultural socialization, can affect the persistence of URM and higher educational institutions (Museus & Quaye, 2009).

**Cultural integrity.** Tierney (1999) discussed the significance of cultural integrity concentrated on the affirmation of students’ cultural identities and driven by “programs and teaching strategies that engage students’ racial/ethnic backgrounds in a positive manner toward the development of more relevant pedagogies and learning activities” (p. 84). Studies support the impact that cultural integrity has on URM students benefiting from the security in their own cultural upbringings (Helm, Sedlacek, & Prieto, 1998; Museus, 2008; Tierney, 1992). A study of 24 Asian Americans and African American college students experienced environments of culturally familiarity, cultural advocacy, and validation of their cultures with in the environments of ethnic student organizations (Museus, 2008).

**Cultural perspectives.** URMs persistence inversely relates to precollege cultures and dominant campus culture. Students who want to efficaciously find connection in and persist through college must choose to adapt to the dominant campus culture or become absorbed in one or more subcultures (Kuh & Love, 2000).

**Cultural agents.** Both Tinto (1987, 1993) and Kuh and Love (2000) emphasized the significance of developing relationships with cultural agents. These relationships positively correlated with URM persistence in college. Their studies reinforce the usefulness of cultural
agents in the form of ethnic student organizations or departments in the acclimation and retention of minority students.

**Familial influences.** In a study conducted by St. John and several colleagues (2006), they investigated factors influencing African American, Hispanic, and White students’ persistence. Parental college degree attainment increased the odds for White students’ persistence, however, it had no impact for Hispanic and African American students but having a family with a high income did increase their persistence.

**High school influences.** Additionally, St. John et al. (2006) found that high school grades were not statistically significant to college persistence for African American and Hispanic students but having access to advancement courses was statistically significant for these groups of students. Moreover, standardized achievement tests (SAT) had a minimal impact on student persistence for any of the three groups. Many studies have found there to be a strong correlation between high school grades and SATs on student persistence (Credé & Kuncel, 2008; Edmonds, 2006; Schuman, Walsh, Olson, & Etheridge, 1985; Tekian, 1998;).

**College decisions.** Consequently, St. John et al. (2006) found that the selection of a state college, private college or research college did influence persistence for African American students but did not have a positive influence in regards to community colleges. The choice of major had a substantial impact for African American students, as several academic majors were negatively associated with persistence. Majors such as health, business, education, and computer science majors negatively affected African American student persistence, which supports the findings that low college grades negatively influenced persistence for this group.

**Financial aid.** In regards to financial aid and student persistence, both Whites and Hispanics were not impacted by financial aid variables, but African Americans were
significantly impacted by any and all financial aid packages, which was positively associated with persistence. Additionally, for Hispanic students, having packages with work-study considerably improved their college persistence (St. John et al., 2006).

As indicated by Kim (2002), it takes African American students longer to graduate than other populations in college. This is one of the reasons these students may be running out of money. Beverly Daniel Tatum echoes Kim’s sentiment by saying, “a key reason minority college students don’t persist is because ‘they’re simply running out of money’” (Marklein, 2006, para. 6). This is detrimental to parents and guardians who cannot send their children to college, to students who cannot pay, and to the university that will miss the opportunity to mold these young minds.

Social capital. Social capital is vital to student persistence and success in college, especially for URM students. Social capital is defined as “the sum of the resources, actual or virtual that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu & Wacquant, 1992, p. 119). Putnam (2000) expands on the concept by saying that these “social networks…operate under norms of trust and reciprocity, and [are] able to mobilize resources and information” (p. 19). In a study conducted by Museus and Neville (2012), they discuss the importance of URM student success, and the need for developing relationships with faculty, staff, and administrators who can provide them with social capital. In addition, the study discovered that “key institutional agents” that “positively influence” and “provide access to social capital share four common characteristics: they share common ground with those students, provide holistic support for those students, humanize the educational experience, and provide proactive support for students” (p. 436). Other studies suggest that URM students’ experiences
and outcomes are positively influenced when “educators” “validate the cultural backgrounds of students of color, go above and beyond their normal duties, and exhibit a high degree of concern, support, and advocacy (Museus & Neville, 2012, p. 439).

**Lack of Minority Faculty**

In 2009 and 2010, Latino faculty accounted for 4% of the nearly 1.4 million total faculty members (Snyder & Dillow, 2011), African American accounted for 7% and Native American for 1%, whereas Whites made up 79% (U.S. Department of Education, 2011). Minority students have a desire, an innate need to see someone that resembles them. They need a person they can relate to, who can speak to them on a level free from restriction, and who can be honest with them about the issues of the community (Hubbard, 2006; Snyder & Dillow, 2011). Often, minority students feel isolated, particularly at PWIs. In order to reduce the feelings of isolation, minority faculty can support minority students by being mentors and providing affirmation (Hubbard, 2006; Snyder & Dillow, 2011). An example of this is African American faculty can also create a feeling of understanding by putting the African American students’ experience into a “historical context,” which can assist them in understanding how their lives are being shaped (Hubbard, 2006, p. 2).

**African American faculty.** It can be difficult for URM students to achieve the academic and social support needed to succeed in college. In this instance, Malone and Malone (2001) argue that it is the duty of the African American faculty “to organize and move these institutions to appropriate levels of accountability. If this doesn’t occur, African American faculty remains part of the problem rather than the solution” (p. 497). The key here is to assist these students’ transition into a new environment that is sure to look very different from their own. African American faculty must create a setting that appeals to the student and provides them a home
away from home. They must also create a feeling that the student has a voice and they are truly apart of the bigger picture. In sum, minority faculty had a strong impact on the success of students in higher education (Hubbard, 2006).

**Microaggressions**

Microaggressions occur on PWI campuses throughout the nation (Solórzano, Ceja, & Yosso, 2000) and occur in both academic and social settings. Microaggressions are “subtle insults (verbal, nonverbal, and/or visual) directed toward people of color, often automatically or unconsciously” (Solórzano et al., 2000, p. 60). Incidence of microaggressions can have a damaging effect on minority students by creating a negative environment. This environment can lead to poor performances in academics, self-doubt, and increased dropout rates (Solórzano et al., 2000).

**Stereotypes and assumptions.** One of the most commonly used forms of microaggressions is stereotypes and assumptions (Solórzano et al., 2000). Merely “looking like” a person of color can lead to negative stereotypes and assumptions (Solórzano et al., 2000). Studies suggest that URM students felt like they were a “numerical minority” and white students’ propel the myth by expressing their thoughts about affirmative action (Solórzano, et al., 2000, p. 67). White students often times made the assumption that minority students, especially African Americans were attending college on a scholarship, not for academics, but for athletics because they could not have been intelligent enough to get on an academic scholarship (Solórzano et al., 2000). An additional assumption White students made was that URMs did not belong at PWIs. African American students, in particular, viewed this in the form of White privilege, meaning Whites felt entitled to education at these campuses, and that African Americans should not be attending “their” schools. Crethar and colleagues (2013) illustrated an
example of stereotyping and assumptions as microaggressions in a study in which they facilitated a focus group study on 17 Native Americans. The findings indicated that Native Americans experienced microaggressions that suggested they were lazy, untrustworthy, undeserving of assistance, poor communicators, primitive, prone to alcoholism, uneducated and incapable, their experiences are not valid and are undeserving of a voice, and they are invisible or second-class citizens (Crethar, Dorton-Clark, Erby, & Zamora, 2013). Due to the unique historical experiences of Native Americans, African Americans, and Hispanics these groups seem to experience microaggressions that are more associated with their particular group (Crethar et al., 2013).

Minority myths. Two of the most recognizable racial educational stereotypes are the myths of the *model minority* and the *inferior minority*. Suzuki (2002) conducted a study and showed the existence of the model minority stereotype in which he stated that Asian Americans are viewed as academically and economically more successful than other groups in the U.S. (p. 23). In contrast, Fries-Britt & Turner’s (2001) study discussed the influence racial academic stereotypes have on the experiences of African American students and confirmed the reality that African American students are categorized as academically inferior and as having disputable academic abilities. Research has shown that these types of assumptions can cause minority students to feel “pressure to confirm or refute those stereotypes” (Museus, 2008, p. 2). Researchers have emphasized the notion that such assumptions can contribute to minority students’ feeling pressure to confirm or refute those stereotypes.

The author also discusses ways to reduce the above stereotypes. These approaches include making people aware of their assumptions, exposing people to diverse groups that consist of both minority and majority groups, creating collaborative multiracial groups that are
working toward shared goals and workshops sponsored by educators that emphasis on the effect stereotypes have on minority students (Museus, 2008). The reduction of these stereotypes is vital to minority students.

**Classroom issues for African American students.** Among feelings of isolation in the classroom because of stereotyping, other classroom issues emerged. African American students repeatedly felt “invisible” in their classrooms. They felt their viewpoints and experience were being “omitted, distorted, and stereotyped” in their classes (Solórzano et al., 2000, pp. 66-67). African American students were regularly the only person of color in their class and mentioned how important it was to have other African American students in the classroom to provide support. Something else to note about being the only person of color in the classroom was African American students frequently felt like they had to speak for all African Americans, be the voice for their people, represent their entire race, when asked about things that pertained to African Americans (Solórzano et al., 2000). Lastly, African American students felt like “inequality and racial insensitivity had been institutionalized” in the classroom and it came in the form of the “lack of interest in black students, and a largely Eurocentric curriculum” (Sidel, 1997, p. 583). All these classroom issues could lead to feelings of helplessness and self-doubt. Additionally, these factors could lead to stress (Solórzano et al., 2000), lack of productivity, and unhappiness among African American students.

**Other campus settings.** Beyond the classroom, there were other settings that URM students felt discomfort. Some students felt they received biased advice at the hands of advisors and counselors in student services. One study suggested that an African American student in particular, discussed her feelings of being “discouraged,” and had feelings of a having a “non-supportive” advisor. The student wanted to make sure she was on the right track in taking pre-
med classes, and the advisor told the student “I don’t think you should take those classes. You’re not going to be able to do that” (Solórzano et al., 2000, p. 68). In this instance, the student felt this occurred because she was African American. Additionally, the study discussed another setting students felt unwanted was in the library. Students felt when they entered the library people stared at them or like African American students do not study. Moreover, the study stated African American students felt like campus police targeted their events, and they had to jump through many hoops for the institution to even allow them to hold an event. African American students thought White students did not have this issue, and were told to, “Have a good time.” Possessing feelings of being unwanted or as an uninvited guest can cause African American students to become aggravated and angry because they deserve the same advantages as the White students have at the institutions they attended (Solórzano et al., 2000). Alternatively, a study by Museus and Quaye (2009) found both African American and Hispanic students who had positive experiences associated with the various environments and White students they encountered on campus as well.

In summation, the combination of all the various microaggressions an African American student can encounter can lead them to suffer an increased amount of stress. It can cause them to “drop classes, change majors and leave the university” (Solórzano, et al., 2000, p. 68) altogether. The benefits to providing African American students with an environment free of overt microaggressions can increase retention rates, lead more students to degree completion, and decrease the stress related to these experiences.

**Tinto’s Student Departure Model**

The most commonly referenced theory for describing student departure in higher education is Tinto’s (1988) theory of student departure (Guiffrida, 2006). This theory derives
from the rights of passage in tribal societies studied within the discipline of social anthropology (Tinto, 1988). Dutch anthropologist Van Gennep first revealed the groundwork for the theory of student departure in his study of tribal societies and their rituals surrounding group memberships, specifically the process of shifting of membership from one group to membership within another group (Tinto, 1988).

Using Tinto’s framework for research has brought about a body of knowledge pertaining to student departure and persistence (Carter, 2006). A number of researchers recognized the usefulness of Tinto’s model in forecasting student attrition among college students (Hurtado, Carter, & Spuler, 1996; Pascarella & Terenzini, 1980). In higher education, Tinto’s “theory of college student departure has near-paradigmatic stature” (Braxton, Bray, & Berger, 2000, p. 215).

**Van Gennep’s Rites of Passage**

Regarding the stages in Van Gennep’s rites of passage theory, he suggests there are three stages “in the patterns of interaction between the individual and other members in society” (Tinto, 1988, p. 441).

The first stage, separation, which involves the separation of the individual from past associations, is characterized by a marked decline in interactions with members of the group from which the person has come…the second stage, transition, is a period during which the person begins to interact in new ways with members of the new group into which membership is sought. Isolation, training, and sometimes ordeals are employed as mechanisms to ensure the separation of the individual from past associations and the adoption of behaviors and norms appropriate to membership in the new group…the third and final stage, incorporation, involves the taking on of new patterns of interaction with members of the new group and the establishing of competent membership in that group as a participant member. (Tinto, 1988, p. 441)

Van Gennep believed his theory on the rites of passage could be applied to a variety of situations, especially those involving the movement of a person or group from one place to
another via separation, leaving a community; going to a new setting, incorporation; or living in a new place or community, incorporation (Tinto, 1988).

**Tinto’s Adaptation (1987)**

Tinto (1998) believed that college students underwent Van Gennep’s three stages as they depart for college. College students leave one community and go to another in the form of a college campus, whereby they are separating themselves from past associations in order to transition to college life. Students will have to pass through the abovementioned stages to achieve a college degree.

In stage one of the college journey, “separation, requires students to disassociate themselves, in varying degrees, from membership in the past communities, most typically those associated with the local high school and place of residence” (Tinto, 1988, p. 443). The difficulty of this departure depends

in part on the character of those communities, especially on their views regarding the worth of college attendance, separation may be quite difficult or merely an accepted part of the process of movement that most persons are expected to make in the course of their lives. (Tinto, 1988, p. 443)

Regardless of the difficulty or ease of this departure, all separations involve departing from past behaviors and affiliations and accepting the new behaviors and norms of the college, which requires some amount of transformation or denial of the old community (Tinto, 1988).

In stage two of the college journey, “the transition period requires passage between the old and the new, between associations of the past and hoped for associations with communities of the president” (Tinto, 1988, p. 444). Since the college students have already started this journey, “the process of separating themselves from the past, new students have yet to acquire the norms and patterns of behavior appropriate to integration in the new” (Tinto, 1988, p. 444) college community. These new students “have not yet established the personal bonds which
underlie community membership. As a result, they are neither bound strongly to the past, nor firmly tied to the future” (Tinto, 1988, p. 444). This transition can cause stress, feelings of loss and confusion, which can cause a student to want to leave college.

The third and final stage in the college journey is the incorporation stage, in which the college students integrate into the college community. Upon entering the new college environment and letting go of previous behaviors, students must now discover different norms that are suitable for their new surroundings, and create relationships, both socially and academically. These connections can only be made through social exchanges within the establishment, with both faculty and students (Tinto, 1988, p. 446). If they do not establish these connections, it may cause issues with the integration and cause isolation to occur, which may lead to student departure. However, Tinto’s incorporation stage differs from Van Gennep’s because students may choose not to incorporate themselves into the college community, as they do not like the social and intellectual groups.

**Tinto’s Re-adaptation (1993)**

In examining Tinto’s (1993) longitudinal model, he denotes that a student leaves college because of the exchanges he/she has with abilities, resources, preparedness, goals, dedication, and exposures to the educational and social communities of the organization. The student’s overall experience with these communities, “as indicated by his/her intellectual (academic) and social (personal) integration, continually modifies his or her intentions and commitments. Positive experiences - that is, integrative ones - reinforce persistence…Negative or malintegrative experiences serve to weaken intentions and commitments” (p. 113). This is particularly true in regards to the dedication to the organization, increasing the chances of departure (Tinto, 1993).
Tinto (1993) categorizes the departure of students in two ways, being dismissed due to academic performance, or leaving voluntarily. His model suggests that students enter college an array “of differing family and community backgrounds (e.g. social status, parental education), a variety of personal attributes (e.g. sex, race), skills (social, intellectual), financial resources, dispositions (e.g. motivations, political references), and various types of precollege educational experiences and achievements” (p. 81). Whether the student departs from college is predicated on these attributes, as well as the student’s dedication and will to graduate (Tinto, 1993).

**Cultural Advancement of Tinto’s Theory**

While Tinto’s theory of student departure has been the end all be all framework for student persistence, researchers have criticized Tinto’s theory and conducted studies supporting the argument that the theory fails to recognize cultural variables and makes it challenging in its applicability to minority students (Guiffrida, 2005; Hurtado, 1997; Kuh & Love, 2000). In addition, Tierney (1992) opposes the adaptation of Van Gennep’s transitional model and its applicability to minority college students. According to Tierney (1992), “rituals of transition have never been conceptualized as movements from one culture to another” (p. 611). This transition describes the developmental progression inside a culture instead of the acclimatization from one culture to another, as the cultural background of minority students’ contrasts with the norms and values of the dominant cultures; consequently, asking minority students to separate from their cultural traditions and supportive connections could be conceivably harmful (Tierney, 1992). Tinto’s theory also fails to look at the motivation reasons behind minority students attending and succeeding in college and their effects on student persistence (Guiffrida, 2006).

Guiffrida (2006) investigates the main components of the motivational theories: self-determination theory (SDT) (Deci & Ryan, 1991) and the job involvement theory (JIT)
(Kanungo, 1982). By integrating some of the components of SDT and JIT into Tinto’s theory, Guiffrida (2006) hoped to create a new model that applies to minority student persistence.

**Self-determination theory.** In the SDT, individuals are driven “to learn, by one of two motivational orientations: (a) intrinsic motivation or learning because one finds the content interesting; or (b) extrinsic motivation, or learning as a means to an end” (i.e., grades, praise, pay) (Deci & Ryan, 1991, p. 183).

**Intrinsic motivations.** Deci and Ryan (1991) described intrinsic motivations as having three main components, which included: (1) the need for autonomy is when students choose to learn because the topic aligns with his or her interests and values; (2) competence or the need for his or her connections to be successful; and the final component (3) relatedness or the need to have tightly-knitted relationships.

**Extrinsic motivations.** Moreover, Deci and Ryan (1991) also described three main components for extrinsic motivations, which included: (1) external regulation or penalties and rewards to learn; (2) interjected regulation or the partial internalization of the external regulation by students who are motivated to learn by penalties and rewards; and lastly (3) when the external pressure to learn is internalized by the student.

**Cross-Cultural considerations.** While motivations can be both intrinsic and extrinsic, one idea to keep in mind is the cultural variation between minority and majority groups and the major behavioral distinctions between the two. These behavioral distinctions come in the form of individualism and collectivism. Individualist societies, as its name implies, value competition, individuality, and emotional detachment from the group. Whereas, collectivist societies value interdependence, group
harmony, and emotional attachment from the group. URM groups typically exhibit the collectivists' values (Deci & Ryan, 1991).

In sum, by applying the abovementioned concepts of SDT to Tinto’s theory this provides the missing motivational factors absent in Tinto’s theory.

**Job involvement theory.** In the JIT, Kanungo (1992) proclaimed that both intrinsic and extrinsic influences motivate the behavior of all of mankind. In addition, an individual’s job involvement occurs based on the ability of the job to satisfy the employee’s most significant intrinsic or extrinsic needs, which societal and cultural norms shape (Kanungo, 1992). In individualist societies, work is satisfied by autonomy and competence, which are both intrinsic factors and by wage, promotion, and personal acknowledgment, which are extrinsic factors. In collectivist societies, work satisfies intrinsic needs for equity, harmony, relatedness, and the improvement for society as a whole (Kanungo, 1992). The need to satisfy these intrinsic rewards is so strong that achieving them may come at the expense of other intrinsic needs like autonomy or extrinsic factors like personal acknowledgment or monetary advances (Kanungo, 1992). The researcher believes that this model translates into systems other than the work environment, including both community and family involvement patterns (Kanungo, 1992).

**Tinto’s theory 2.0.** Minority college students typically operate under more of a collectivist society of norms and values, so when looking at these groups one must keep in mind that these students need to remain connected to their home social systems, and through these systems both family and friends from home can support these minority students. In addition, the culturally friendly term of connection should replace the term integration, which supports the notion that minority students do not need to abandon their culture and absorb the dominant college cultures. They can still be successful within the college environment without abandoning
home social systems or rejecting their old values and norms and by maintaining their cultural connections (Guiffrida, 2006). Several qualitative studies support cultural connection as being essential to overcoming adversities on campus, such as racism and cultural isolation, in regards to Latinos (Rosas & Hamerick, 2002), Native Americans (Navajo) (Jackson & Smith, 2001), and African American (Guiffrida, 2005) students.

Incorporating components from SDT and JIT will help to round out Tinto’s theory and create a more culturally friendly approach. Consistent with the SDT principles of motivation, “students at risk for attrition or low academic achievement at college have either” (Guiffrida, 2005, p. 463) no motivational factors in regards to learning or non-self-determined forms of extrinsic motivation. Similarly, JIT recognizes the impact of social systems on motivation; however, integrating JIT into Tinto’s theory allows the theory to recognize how ingrained cultural norms impact student need-saliency patterns, which, in turn, impact the social systems that students seek to support them in college. (Guiffrida, 2005, p. 463)

In Guiffrida’s study (2000), cultural connections and social integration were illustrated and viewed as reasons for academic success among African American students. These particular connects were seen as assisting these students in “establishing out-of-class connections with faculty and allowed them to feel comfortable by being around others perceived as like them” (Guiffrida, 2003, p. 315). In addition, African American students said they needed a reprieve “from the White world to feel comfortable” (Guiffrida, 2003, p. 315). Additionally, the groups “helped expose and connect Black students from predominantly White home communities to African American culture and allowed them to do so without feelings of fear, or ashamed because they were unfamiliar with black culture” (Guiffrida, 2003, p. 316). Moreover, it allowed them space to “code switch.” This is “a phenomenon among blacks (acting/dressing/talking a certain way around other blacks and switching around whites” (Guiffrida, 2003, p. 317).
However, the need to be in a social atmosphere with other African Americans is not always that important to the group. On the contrary, “black students from predominately White neighbors may not need the same involvement with Blacks than those from Black dominated neighborhoods – their values, norms and ideas were more similar to the White majority” (Guiffrida, 2003, p. 313).

In summary, Guiffrida (2005) furthermore contends that “recognizing the continuing need for cultural and familial connections, Tinto’s (1993) theory can more accurately describe diverse students, especially students who maintain collectivist cultural values, by recognizing relationships between cultural norms, motivational orientation, and academic achievement and persistence” (p. 460). The theory can be expanded upon by acknowledging the amount that the student’s proclivity towards motivation effects “college and pre-college commitment toward academic success and persistence, is impacted by collectivist or individualist cultural norms, and both home social systems and college social systems shape and fulfill students’ salient needs” (Guiffrida, 2005, p. 460). Moreover, whether the student succeeds and persists, based on motivation, can be influenced by the norms of his/her culture and social environments, both at home and at the institution (Guiffrida, 2005, p. 460).

**College Programs in Health Profession**

There is a severe underrepresentation of URMs in the health professions. This provides a solid rationale for the argument of advancing “civil rights, public health and educational benefit, and business gains. Improving the diversity of the health professions requires multipronged strategies addressing the educational pipeline, admissions policies and the institutional culture at health professions schools, and the broader policy environment” (Grumbach & Mendoza, 2008, p. 418).
Health professionals in the United States are not representative of the nation’s ethnic and racial composition. Whether its dentists, nurses, pharmacists, or physicians, URMs are significantly underrepresented compared to their segments in the overall population of the U.S. (Grumbach & Mendoza, 2008). The need for diversity in the health profession is supported by several justifications. One of these logics is the “civil rights case” (Grumbach & Mendoza, 2008, p. 414), or “the social justice argument” (Saha, 2014, p. 291), which “recognizes the nation’s legacy of racially segregated educational institutions and hospitals” (Grumbach & Mendoza, 2008, p. 414), as well as “discriminatory and exclusionary policies that for many years kept minority individuals” (Saha, 2014, p. 291) excluded. The civil rights case “argues that measures such as affirmative action in health professions schools’ admissions policies are justifiable to redress the lack of equal opportunity” (Grumbach & Mendoza, 2008, p. 414).

The public health case focuses on the practical advantages of having diversity in the health care workforce as a way of eradicating health care disparities. This debate revolves around a significant body of research indicating racial, ethnic, and language diversity among health professionals is related to improved access and quality of care for deprived communities (Kormaromy et al., 1996). From an educational perspective, studies show that all college students perform better intellectually and civically when the student body is racially and ethnically diverse (Institute of Medicine, 2004). In 2003, Justice Sandra Day O’Conner called the benefit of diversity in education a “compelling interest” in the verdict in \textit{Grutter v. Bollinger} (2002), which upheld the University of Michigan School of Law’s “race-conscious” admittance policies (\textit{Grutter & Bollinger}, 2006). Lastly, the business case highlights the customer service and competitive advantages to the health industry of having a workforce that is attuned both
culturally and linguistically to the increasing diversity of the nation’s health care consumers (Grumbach & Mendoza, 2008, p. 414).

**The Need**

Underrepresented minorities make up a significant number the population within the United States. Collectively, URMs accounted for one-quarter of the “U.S. adult population in the 2000 census but far lower percentages of health professionals. Asians, as a whole, are not underrepresented in most of the health professions, although some Asian subpopulations, such as Cambodian and Samoan ethnicities, are underrepresented” (Grumbach & Mendoza, 2008, p. 414). Regarding the national data on race and ethnicity for the health “the proportion of underrepresented minorities ranged from 9.9 percent among pharmacists in 2000 to 5.4 percent among dentists in 2003” (see Figure 3) (Grumbach & Mendoza, 2008, p. 414). As for URMs attending health professions' schools, they had a somewhat greater representation (see Figure 4).

Nevertheless, the field of public health is the lone discipline where URM students come close to population equivalence. The baccalaureate nursing program, from 1990-2005, had the largest comparative growth, with an increase from 12% to 18% for URM students. Doctorate-level health profession degree programs, “such as medicine, dentistry, and pharmacy,” revealed little change for URM students during the same time period (Grumbach & Mendoza, 2008, p. 414).

Numerous reasons may clarify enrollment for URM health professions students. Programs that require doctoral degrees for licensure may create financial and academic impediments for URM students that other fields may not, such as nursing. “Also, legal challenges to race conscious admissions policies have focused on medical and law schools, and schools of nursing and public health might not have been exposed to as much public scrutiny of
their admissions procedures” (Grumbach & Mendoza, 2008, p. 415). It remains a challenge to monitor “minority participation in the health professions” because of the “lack of uniform race/ethnicity categories and reporting methods across disciplines” (Grumbach & Mendoza, 2008, p. 415).

Figure 3. Health care professions by race and ethnicity. Copyrighted and published by Project HOPE/Health Affairs as: Grumbach & Rosalia (2008). Disparities in human resources: Addressing the lack of diversity in the health professions. Health Affairs, 27(2), 413-422. doi 10.1377/hlthaff.27.2.413. The published article is archived and available at www.healthaffairs.org. Reused with permission from Project Hope/Health Affairs.
Both the Institute of Medicine and the Sullivan Commission on Diversity in the Healthcare Workforce created reports that exposed the various influences that cause the lack of minorities in the health professions and presented suggestions to tackle them (Institute of Medicine, 2004; Sullivan, 2004).

The educational pipeline. Since schools have not met the educational needs for minority and disadvantaged students in K-12, this has impeded the growth of diversity in the health professions. By the time these students reach high school, studies show that Hispanics and African American students drop out of school at a rate of one in five and one in ten, as compared with one in seventeen White students (Grumbach, Coffman, Munoz, Rosenoff, & Speulveda, 2003). The result is leakage of many minority youth at early stages of the health career educational pipeline (Grumbach & Mendoza, 2008, p. 416).

Figure 4. URM health professions students. Copyrighted and published by Project HOPE/Health Affairs as: Grumbach & Rosalia (2008). Disparities in human resources: Addressing the lack of diversity in the health professions. Health Affairs, 27(2), 413-422. doi 10.1377/hlthaff.27.2.413. The published article is archived and available at www.healthaffairs.org. Reused with permission from Project Hope/Health Affairs.
A deep commitment by health care organizations needs to occur to reduce the disparities occurring in primary education. Insincere commitments like volunteering at health career days or tutoring, does not generate significant, long-lasting advantages for minority students and disadvantaged schools. Real commitments means

- encouraging public school funding, as the richest 10% of school districts devote nearly 10 times more than the underprivileged on educational resources (Bollinger, 2003);
- strengthening the kinds of whole-school reforms that have demonstrated better academic success amongst all at-risk children (Bollinger, 2003)—a study in Texas of 900 school districts uncovered in looking at socioeconomic status and the most qualified teachers that the erraticism in teacher qualifications accounted for nearly all of the differences in test scores for African American and White students (Bollinger, 2003); and
- advancing continuing collaborations involving primary and health professions schools and health care organizations that bring expertise and resources to these schools (Grumbach & Mendoza, 2008).

Relationship examples include the Doctors Academies developed by the Fresno Unified School District and the University of California, San Francisco (UCSF), Fresno Latino Center for Medical Education and Research; and the Gateway to Higher Education programs developed by the New York City Department of Education, City University of New York, and Mount Sinai Medical School (Flores & Dominquez, 2006).

Despite the inequalities in primary education, minority students are graduating from higher education institutions (Grumbach & Mendoza, 2008). Over a 15-year timespan, between 1990 and 2005, Whites increased their number of bachelor’s degrees earned by 15%, African Americans and American Indians receiving degrees doubled, and Hispanics increased their
numbers by nearly threefold (U.S. Department of Education, 2003). Additionally, underrepresented minority college students are as likely as majority students to major in biological and biomedical sciences.

*College and graduate school interventions.* Over the last 10 years, the lack of URM enrollment in schools of medicine, pharmacy, and dentistry appeared during a time when the pool of college-educated underrepresented minorities in the United States was steadily growing. This observation suggests that a fruitful short-term strategy for boosting minorities’ entry into the health professions might be to intervene at the relatively “downstream” pipeline stage of college. Interventions at this stage may be especially attractive to health-sector funders and stakeholders because of the shorter timeline between administering an effective intervention and the outcome of underrepresented minorities entering health professions schools, and the ability to focus interventions more narrowly on health career trajectories. Moreover, some of the most persuasive research evidence on the effectiveness of pipeline interventions comes from studies at the college and post baccalaureate levels. (Grumbach & Mendoza, 2008, p. 417)

For example, a Robert Wood Johnson Foundation sponsored summer program designed to aspire and prepare URM students for medical school observed that the participants were 70% more likely to gain medical school admission than the URM control group (Cantor, Bergeisen, & Baker, 1998). A similar study evaluated UC’s premedical post baccalaureate programs, which has a disproportionate amount of minority and disadvantaged enrollees. The findings suggested that participants were more than twice as likely to matriculate to medical school than the control group (Grumbach & Chen, 2006).

In a study by Grossman et al. (1998), a survey of 46 deans and directors from Florida nursing programs occurred. The study found that even though “cultural diversity was reflected in their program philosophy, mission statement, and conceptual framework” (p. 26), the deans and directors stated that the “lack of cultural knowledge, sensitivity, and awareness is the most
critical issue related to cultural diversity” (p. 26) and the lack thereof in health professions programs.

**Government programs.** The federal government has been the biggest financial supporter of health professions pipeline with the Health Careers Opportunities Program and the Centers of Excellence Program contributing the most. The funding for these programs significantly decreased in 2006 by 24% thus threatening the pipeline programs sustained by those funds (Grumbach & Mendoza, 2008).

**Educational Benefit**

The influences of racial and ethnic diversity do not just have an effect on student outcomes, but on the campus as well. Literature suggests that by increasing diversity it can transform universities and colleges and improve the campus educational environment (Milem, 2003).

In the article “The Educational Benefits of Diversity,” the author discusses educational benefits from the educator’s perspective. Milem (2003), as cited by American Association of American Universities, 2007, states:

> We believe that our students benefit significantly from education that takes place within a diverse setting. In the course of their university education, our students encounter and learn from others who have backgrounds and characteristics very different from their own. As we seek to prepare students for life in the twenty-first century, the educational value of such encounters will become more important, not less, than in the past.

> A very substantial portion of our curriculum is enhanced by the discourse made possible by the heterogeneous backgrounds of our students. Equally, a significant part of education in our institutions takes place outside of the classroom, in extracurricular activities where students learn how to work together...compete...exercise leadership, as well as to build consensus. (p. 127)

This is an excellent summary of how colleges and universities support and enhance diversity. There are many other benefits to diversity in higher education, but the aforementioned
importance is at the crux of why diversity is necessary in higher education. This information reinforced my own personal beliefs about diversity inside and outside of the classroom, as it teaches the fundamental concept of diverse viewpoints and experiences and it is the ultimate teacher for both educators, as well as students. As educators, we can only teach so much but students who encounter diverse groups take pieces and parts of one another to build on their learning.

Admissions

The importance of admissions policies in health professions programs is a key component to increase the number of URMs represented in higher education. Through the admittance of students who are racially and ethnically diverse enables the institution to better prepare students to be effective doctors (Bollinger, 2003), nurses, and dentists. Diversity exposes students to peers who differ in regards to life experiences and it challenges their prior assumptions of these students. When admissions offices look at a potential student’s application materials, they “reveal that he or she might add to the diversity of perspectives that are voiced in class, that helps the applicant’s chances of admission” (Bollinger, 2003, p. 432). The admissions areas are multifaceted and complex and can include areas such as admission policies based on race and student high school academic performance.

Health professions programs are competitive and have a limited number of slots for students. Because of the large number of applicants to these programs, admission committees depend greatly on previous grades and standardized test scores (Institute of Medicine, 2004).

Some health professions programs have revised their admissions policies to place a greater emphasis on more “humanistic factors” like leadership and service. This shift is consistent with a growing recognition in health professions fields that these attributes must receive greater attention in the admissions process to maintain
professional quality, to ensure that future health professionals are prepared to address societal needs, and to maintain the public’s trust in the integrity and skill of health professionals. (Edwards, Elam, & Wagoner, 2001, p. 1208)

Evidence suggests that by using more humanistic factors this may reduce the admissions barrier for URM applicants who are qualified, which will in turn increase the diversity of health professions students (Garcia, Paterniti, Romano, & Kravaitz, 2003). Researchers suggest having alternative admissions criteria such as personal interviews, letters of recommendation, and writing samples are better predictors for URM students (Lee, 1991).

Bollinger (2003) brings up the notion of having a colorblind admission process in which a predetermined top percentage of students from each high school within the state gain admittance. Some institutions have already been using this approach, but Bollinger believes there are problems with this approach: (1) it is ineffective for both graduate and professional schools; (2) “it would result in both admitting some top students from weak high schools who may not be academically prepared to do the work and rejecting very able students who are below the cut-offs at very strong schools” (Bollinger, 2003, p. 434); and the chance to evaluate and assess the applicant is wasted. “And so, the process is colorblind, but blind to the applicants themselves as well” (Bollinger, 2003, p. 434).

**Pool of applicants.** The ultimate goal is to increase the number of URM students entering and graduating from health professions schools nationally. The reality is that some schools are better at recruiting applicants from “the same pool of highly rated minority applicants who receive multiple acceptance offers in what amounts to a zero-sum game of minority recruitment” (Thomson, Ferry, King, Martinez-Wedig, & Michael, 2003, p. 456) than others.

**Grade point average and standardized test scores.** The use of standardized test scores as a gauge for academic merit often comes as a disadvantage to URM student applicants. “Some
higher education institutions, as well as many among the general public, cling to the belief that admissions tests measure a ‘compelling distillation of academic merit’” (National Research Council, 1999, p. 52). However, relying solely on standardized tests does not fully measure the range of abilities necessary to succeed in higher education (Sternberg & Williams, 1997) and they do not provide individual distinctions between applicants. The legitimacy of quantitative measures in forecasting which students will be successful as health care professionals has come into question. Studies suggest that minority student performances on standardized tests adversely affect these students (Edmunds, 2006; Institute of Medicine, 2004; Tekian, 1998).

URM medical students who gained admittance through affirmative action programs were just as probable to graduate from medical school as majority students, additionally URM students were as probable to pass their licensing boards and practice medicine. This all occurred from URM students’ who typically had Medical College Admissions Tests (MCAT) scores and grade point averages that were less than the majority students (Davidson & Lewis, 1997; Tekian, 1998). Research findings such as this have caused researchers to conduct studies using qualitative methodologies to focus on more of the humanistic qualities, such as life experiences, community services, and character of applicants and how this change could impact health professions programs (Bollinger, 2003).

**Legalities.** From a legal perspective, many cases have been the foundation for admissions criteria in higher education. U.S. Supreme Court Justice Lewis Powell penned the defining judgment in the *Regents of the University of California v. Bakke* (1978) case, where he quoted from the earlier Supreme Court decision on *Keyshian v. Board of Regents* (1967). Justice Powell affirmed that the atmosphere of ‘speculation, experiment and creation’—so essential to the quality of higher education—is widely believed to be promoted by a diverse student
body...It is not too much to say that the nation's future depends upon leaders trained through wide exposure to the ideas and mores of students as diverse as this Nation of many peoples. (Bakke, 1978, p. 2760)

The judgment in the Bakke (1978) case emphasized the compelling interest of the government on the benefits that diversity has on education and it also supplied the rationale for supporting affirmative action at particular organization in the nation (Gurin, Dey, Gurin, & Hurtado, 2003).

Conversely, in Hopwood v. University of Texas (1996), the diversity argument came into question as the Fifth Circuit Court of Appeals refuted the educational benefit. The court of appeals stated that

The use of race, in and of itself, to choose students simply achieves a student body that looks different. Such a criterion is no more rational on its own terms than would be choices based upon the physical size or blood type of applicants. (Hopewood v. University of Texas, 1996, p. 950)

Since these rulings, the courts have formed contradictory decisions on the governments compelling interest in diversity.

The University of Michigan has had two cases regarding undergraduate and law school admissions policies that have fostered the courts contradictory viewpoints on the compelling governmental interest on diversity. The District Court’s ruling on Gratz v. Bollinger et al. (2000), upheld the University of Michigan’s undergraduate admissions policy and the government having compelling interest in this issue. Conversely, the District Court’s ruling on Grutter v. Bollinger et al., (2002) challenged the stance that the diversity benefit to education “are not a compelling state interest, and even if they were, the Law School's policy was not ‘narrowly tailored’ to the interest in diversity” (p. 1). An appeal occurred in both the Gratz and Grutter cases and the Sixth Circuit Court of Appeals overturned the lower court's decision in the Grutter case ruling in favor of the University of Michigan. These cases finally reached the U.S. Supreme Court and in the Gratz case the courts struck down the University of Michigan’s
admission policy that gave points for race, however, in the Grutter case they upheld the University of Michigan’s holistic review process treating race only as a germane attribute (*Fisher v. University of Texas at Austin*, 2016).

In 2006, Michigan voters approved a ban on affirmative action, which affected higher education’s admissions; however, in October 2011, The United States Court of Appeals ruled that this banned was unconstitutional. The ruling stated that the ban “was not based on racial discrimination, but rather on a violation of the 14th Amendment’s guarantee of equal protection” (Lewin, 2012, para. 2). The court stated “the ban unfairly placed a special burden on supporters of race-conscious admissions policies” (Lewin, 2012, para. 2). In addition, the court said people trying to change any other aspect of university admissions policies had several avenues open: they could lobby the admissions committee, petition university leaders, try to influence the college’s governing board or take the issue to a statewide initiative. Those supporting affirmative action, on the other hand, had no alternative but to undertake the ‘long, expensive and arduous process’ of amending the state Constitution. (Lewin, 2012, para. 3)

The overturning of the affirmative action banned could have opened the doors to potential changes in policies at higher education institutions, but unfortunately in April of 2014, the Supreme Court upheld Michigan’s ban on affirmative action. The justices determined that the appeals court had no authority to set aside the Michigan law that was supported by 58% of the voters. Justice Anthony Kennedy said:

> This case is not about how the debate about racial preferences should be resolved. It is about who may resolve it. Michigan voters used the initiative system to bypass public officials who were deemed not responsive to the concerns of a majority of the voters with respect to a policy of granting race-based preferences. (Mears, 2014, para. 7-8)

In stark contrast, Justice Sonia Sotomayor stated:

> For members of historically marginalized groups, which rely on the federal courts to protect their constitutional rights, the decision a hardly bolster hope for a vision of democracy that preserves for all the right to participate meaningfully and
equally in self-government. The refusal to accept the stark reality that race matters is regrettable. The way to stop discrimination on the basis of race is to speak openly and candidly on the subject of race, and to apply the Constitution with eyes open to the unfortunate effects of centuries of racial discrimination. (Mears, 2014, para. 6 & 10)

As long as laws such as these are in place to subjugate marginalized groups it may be difficult to increase the numbers of underrepresented minorities in higher education institutions.

In 2016, a new case *Fisher v University of Texas Austin* (2016) was heard by the Supreme Court. Fisher sued the University of Texas Austin saying her 14th Amendment right was violated because her right to equal protection was violated due to the university’s admission policy, which consider race as one of the factors in its holistic admissions process. This case brought back to the forefront, the Grutter case’s holistic admissions policy. Fisher argued it the admission policy should be clarified or struck down by the Supreme Court. In the Supreme Court Decision, the court held that the holistic admission process being used by the University of Texas Austin during the time Fisher was denied admission does not violate the Equal Protection Clause of the 14th Amendment (*Fisher v. University of Texas Austin*, 2016, p. 1).

**Academic Performance**

Aside from admissions policies and the use of standardize test scores being limiting for URM students, they also face additional issues that can affect their entrance into health professions programs. According to the American Sociological Association (2003), URM students are more likely to “attended schools that are racially and economically segregated, poorly funded, offer few (if any) advanced placement and college preparatory classes, have fewer credentialed teachers, and suffer from a climate of low expectations” (p. 4). In addition, certain groups, especially African American and Hispanic students are not as likely to be exposed or prepared for the rigors of the college science curriculum (Young, 2005; Marks &
Wilkinson-Lee, 2006). Addressing the issues of the disparities in education is the first step in moving toward the impartiality in opportunities for URMs (Young, 2005).

Studies suggest that even URM students who are high academic performers may suppress their performances to meet stereotypes that suggest minorities perform poorer academically (Steele & Aronson, 1995). Moreover, “by high school, more than one in five Latinos and one in ten African Americans have dropped out of school, compared with one in seventeen white students” (Grumbach & Mendoza, 2008, p. 416), thus the educational needs are not being met for minority and low-income students. Minority students who could potentially enter health career programs are lost (Grumbach & Mendoza, 2008).

**Program Choice**

Numerous factors play a role in the program choice for URM students. Studies show that both gender and race play a role in the choice of major. African American students are more inclined to go into the education and social science programs. Asians are concentrated more in high income earning fields like engineering and business. Females are less likely to go into science and mathematics fields (Ma, 2009). In addition, both the socioeconomic status of the students’ families and the parents’ expertise and skill sets influences the choice of major for students (Ma, 2009; Wiggs & Elam, 2000). In addition, studies suggest that “less than 22% of students in high school are influenced by parents in selecting a major” (Baldwin & Agho, 2002, p. 1) and are often dependent on the parents’ values and occupations (Baldwin & Agho, 2002). Wiggs and Elam’s (2000), study was congruent with the Baldwin and Agho (2002) study and found that out of 53 African American students from the University of Kentucky, “56% of the medical students decided in elementary or junior high school enter a health career. In contrast,
only 15% of students from the other health professions programs decided at an early age” (p. 127).

Why do students choose health professions programs? “Practicing health professionals are the most effective initial source of information for prospective health profession students. Prospective students are more inclined to enroll in health profession educational programs if they are encouraged to do so by a practitioner” (Baldwin & Agho, 2002, p. 1). Furthermore, it was observed that most students decide about their career interest at an early age; their first-degree interest is not always the one they eventually pursue in college; and the effect of initial source of information on enrollment decision varied by discipline. (Baldwin & Agho, 2002, p. 1)

Additionally, Wiggs and Elam (2000) study showed that “one-third of the medical students and two-thirds of nursing students compared to 20% of students from other colleges were influenced to pursue a health profession by a family member” (p. 127). Edmunds (2006) study of dental students found that most of the students learned about dentistry from “a family member or friend and not through a recruitment effort by a dental school” (p. 919).

Various studies illustrate the motivating factors for students to choose health professions programs (Butters & Winter, 2002; Mishoe, Valeri, & Beveridge, 1993). One study surveyed 104 African American and 226 White dental students to find out their motivations behind choosing their health professions program. “African American students were more motivated to be become a dentist to serve the public, plan to specialize, working in an urban area, and work part-time” (Butters & Winter, 2002, p. 492). A second study surveyed high school students entering college and of the ones who chose health professions, their motivating factors were “personal satisfaction, employment opportunities, and income” (Mishoe et al., 1993, p. 33).

**Barriers.** Numerous studies have occurred on the barriers experienced by URM students and their pursuit of a health professions program (Agrawal, Vlaicu, & Carrasquillo, 2005; Bright,
Corey, & Stone, 1998; Gardner, 2005; Haskin & Kirk-Sanchez, 2006; Loftin, Newman, Dumas, Gilden, & Bond, 2012; Rao & Flores, 2007). In two studies conducted by Agrawal and colleagues and Bright and colleagues, the three most commonly listed barriers are standardized test scores (MCAT), lack of minority faculty, and lack of minority role models (Agrawal et al. 2005; Bright et al., 1998). Additionally, in three other studies, the major factors declared were financial constraints and lack of support and encouragement (Gardner, 2005; Loftin et al., 2012; Rao & Flores, 2007;). Studies found that other factors included: lack of knowledge about medicine, negative peer views on URMs excelling academically, and lack of URM role models in the community and on television. Additionally, feelings of being inadequate and having to perform twice as well, lack of academic advising, easier and more appealing ways to make money, and feelings of loneliness and isolation were factors. Moreover, peers lack of understanding and knowledge about cultural differences, coping with insensitivity and discrimination, and lack of professional socialization were the final factors (Bright et al., 1998; Gardner, 2005; Loftin et al., 2012; Rao & Flores, 2007).

Lastly, two studies found unique barriers associated with technology (Haskins & Kirk-Sanchez, 2006; Loftin et al., 2012). The findings suggested that URM students did not have the same access to instructional technology and were less likely to own computers than nonminority students. In addition, URM students were less likely (approximately one-third of students) of having even used a computer prior to attending college, do not have access to a personal computer and are less likely to have internet access (Haskins & Kirk-Sanchez, 2006; Loftin et al., 2012). Moreover, URM students in the Loftin et al. (2012) study also reported the “inability to type and not being knowledgeable or skillful at using basic software applications such as Microsoft Word as additional barriers” (p. 6).
Sample of Successful Programs

In regards to increasing diversity in health professions, many efforts include the health professions schools in addition to interventions at both the primary and college-level education. To diversify the health professions workforce by increasing the pool of URM students requires program interventions in health professions programs. Below are some examples of health professions schools engaged in successful program interventions.

**UCSF and Duke.** Considered to be among the top medical schools in the country, Duke University and the University of California, San Francisco (UCSF) have had great success in enrolling URM students.

Both institutional leadership and advocacy efforts made way for the 1960s integration of the students enrolled at the medical school. An alliance of African American employees at UCSF insisted that students of color gain enrollment at the institution. In 1968, the former Secretary of Health during the Johnson administration, Philip Lee, gained appointment as Chancellor of the university. Lee and several faculty members began a campaign to southern colleges to recruit minority medical students. By the 1980s, UCSF was responsible for a large increase in minority medical students enrolled at the university, except for historically black medical schools like Morehouse University, Howard University and Meharry Medical College (Rogalski, 2006).

In 1966, Duke School of Medicine became one of the last medical schools in the south to admit minority students. During the 1960s, students at Duke pushed for a more expedited process of integrating the campus and an increased sensitivity to racial discrimination, having had a demonstration at the administration building in 1969 (Rogalski, 2006). The enrollment rates for URM students grew at a sluggish pace over the next several years; however, in 1993,
Nannerl Keohane became Duke’s president and made it one of her missions to diversify the campus. The president appointed Brenda Armstrong, a former protester, to become the admissions director of Duke’s School of Medicine. Armstrong revised the admissions policies to focus more on qualitative measures (reviews of the applicants’ complete files) than on quantitative measures (grade point average and standardized tests) and by 2004, her efforts had increased the number of URM students matriculating at the medical school by 29% (Rogalski, 2006).

In sum, the program abovementioned interventions have focused on changing the institutional culture and creating a supportive environment that fosters diversity among students, faculty, and staff.

**Pipeline Programs**

Jointly, health professions programs have not yet achieved full success in increasing the numbers of URM students, which would assist in the efforts to diversify the health professions workforce. Despite the efforts, few successful URM recruitment models exist in spite of the collective agreement that the lack of a diverse health professions workforce is an issue.

One of the biggest barriers to success is that at the earliest stage of the pipeline, primary and secondary schools, are not adequately preparing students. Conversely, even URM students who excel “at primary, secondary, and collegiate levels, and who are committed to pursuing a career in one of the health professions, often find it difficult to gain admission to a health professions school” (Sullivan, 2004, p. 6). These students contended with barriers that “include an over-reliance on standardized testing in the admissions process, unsupportive institutional cultural, insufficient funding sources, and leadership without a demonstrated commitment to diversity” (Sullivan, 2004, p. 6).
Purpose of Pipeline Programs

For an individual to pursue a career in the health professions, equal access to high-quality education must occur. Pipelines originated to direct the flow of diverse and talented students into the nation’s health care workforce, yet, in reality, not everyone equally flows through the pipeline. Race and ethnicity substantially influence an individual’s progress through the pipeline (Sullivan, 2004). URMs appear to encounter obstructions in the pipeline, and these obstructions “pose significant challenges for transporting a critical mass of minority students” (Sullivan, 2004, p. 73) to health professions schools. It is evident that there is a multitude of obstructions in the pipeline that pose a threat to the future diversity the U.S. health care workforce.

Minority students lag behind white students at every educational level, training in nearly all-key scholastic indicators, such as reading and math skills, high school completion rates, college enrollment rates, and graduation rates. The gap between the primary and secondary educational experience of whites versus that of Hispanics, African Americans, Native Americans, and some Asian subgroups is wide, deep and persistent. (Sullivan, 2004, p. 73)

So, what are the obstructions that occur? The pipelines’ segments for primary and secondary schools are obstructed by educational resource inequalities; learning outcome disparities; high school completion rate disparities; minority youth viewing education as having little value; low aspirations; teachers have diminished expectations of students; and role modeling and mentoring is needed for these students (Sullivan, 2004).

Sullivan (2004) found that pipeline obstructions for URMs occurred during the college years as well. The obstructions include low aspirations among URM students; concerns that faculty have lower expectations for them; they lack information about the application process for professional programs; and the lack of support for and access to pre-admissions programs.

Talented minorities who are successful at the primary, secondary, and college levels that want to be health professionals, still have issues gaining access to health professions education
and barriers to admissions. For the minority students who successfully enter these programs, they still encounter multiple barriers to academic success and impediments to professional development (Sullivan, 2004).

**Defining Pipeline Programs**

Educational pipelines were initially created to provide access into both education and the workforce for underrepresented groups in the United States, as well as remove or diminish barriers for these groups that may not exist for majority groups, thereby increasing their representation. To accomplish this, these underrepresented groups were recruited to gain access to areas they were historically excluded from by providing various support mechanisms to aid in their success. These mechanisms include educational financial support, academic and enrichment programs to counteract deficiencies in education and exposure to specific areas of the workforce, offer mentoring and psychosocial support, and to provide training in areas that could be lacking like communication, research, and public speaking (Augustine, 2010).

**Pipeline Entry**

Early exposure to pipeline programs would be the best approach to achieving success for URM students. This could occur as early as elementary school during the formative years of skill development. This would allow students to learn early on about career choices, allow them to plan in advance for the courses needed for those careers and receive early assistance from school staff. In addition, parents can receive education about these career options and what opportunities are available, as well as students’ social capital can be fostered (Gonzalez et al, 2002, as cited in Augustine, 2010).

The most common place of exposure to pipeline programs for URM students is during postsecondary school. This is not ideal because it creates additional challenges for URM
students as they break bad habits and “redefine positive academic strategies and behavioral patterns” (Augustine, 2010, p. 70). At this point, URMs might also struggle with identity issues based on an inability to fit in because of newly learned and built cultural capital (Augustine, 2010). Cultural capital is defined as “forms of knowledge, skills, education, and advantages that a person has, which give them a higher status in society” (Cobb & Glass, 2009, p. 69).

Achieving cultural and social capital can be especially difficult for first generation students who typically lack the experiences and exposure to attain these ideals. Therefore, it is particularly important for pipeline staff to provide opportunities for URM students to build in these areas (Augustine, 2010).

**High school entry.** I am defining the pipeline entry point as junior and senior year of high. This allows for career exploration to occur prior to entry into college, as well as URM students can begin to develop cultural and social capital through the various exposures that occur during participation in the pipeline program. For example, contact with health professionals within the health care environment, meeting college academic advisors, and learning medical terminology and health care concepts through coursework.

**Program Components**

Research shows that successful pipeline programs include components that focus on “academic enrichment (especially in science and mathematics), admissions preparation, mentoring, financial support, psychosocial support, and professional opportunities” (Smith et al., 2009, p. 843). In order to increase the number of URM students entering health professions schools, partnerships between public school systems, health professional schools, and community organizations must occur and be sustainable (Carline & Patterson, 2003).
Smith and his colleagues (2009) suggest three strategies to assist in pipeline programming. The first is to “expand the number of academic partnerships with local public school districts to increase enrollment in pipeline programs for URM students” (p. 844). The second suggestion is to increase undergraduate and graduate programs that seek to increase enrollment for URM students. Lastly, proactively recruit URM students and develop admissions strategies that include both academic factors and nonacademic factors (Smith et al., 2009).

Carline and Patterson (2003) provide a compilation of research that successful partnerships are the vital piece to pipeline programs. The key elements should include: academic preparation programs; programs that work with teachers and school systems; partnerships that consider unique cultures, goals and skill and provide both services and resources; more funding for pipeline programs to improve educational achievement; create academic and institutional programs that are in align with national standards; create a public relations campaign; hire administrators and faculty that are URMs; and have institutional support (p. 845).

Other programs included unique components, which led to program success. One program, included career/job shadowing and interviewing of health care professionals, which seemed to have a positive effect on helping URM students maintain an interest in being health care professionals. The greatest impact occurs if the exposure happens during the first two years of college. An example “of this contact include speaking with a physician about career options or observing a physician in a clinical setting. In this case, that contact seems more likely to encourage students in maintaining their interest (8 of 35 students, 23%)” (Barr, Gonzalez, & Stanley, 2008). In addition, exposure to a research component seems to have a positive effect on student interest for URMs (Barr et al., 2008). Other components include role modeling;
motivational elements; academic enrichment programs; mentorship elements; and research apprenticeships (Murray-Garcia & Garcia, 2002).

The Coordinated Health Workforce Pathway (see Figure 5), created by Jeff Oxendine (2011), provides an illustration of a health professions pipeline and the infrastructure that supports such a program, from the beginnings through the school system to the end with the entrance into the health professions workforce.

Coordinated Health Workforce Pathway

Measures of Success

Several programs use success measurements to rate the success of their programs. The success measures include students’ high school graduation and whether these students enroll in college. Moreover, grade point average, SAT scores and college preparatory course enrollments measure success. In addition, college graduation and information on the financial support for the students are used (Laguardia, 1998).

Consequently, with success there are also failures. Oliva and Nora (2004) suggest that one potential reason for ineffectiveness has to do with the evaluation and assessment process. There is a lack of understanding of what forces and behaviors affect a student’s academics, which may result from misconstrued and outcome-driven evaluations. This most often occurs when there is a lack of communication between those responsible for programmatic implementation and those conducting the assessments. In addition, there is a lack of consistent measures across similar interventions, which makes it difficult to assess effectiveness across multiple programs (p. 120).

Program interventions and success. One successful pipeline program occurred at the University of Michigan. Researchers looked at eight years of the program and found all the students shared high levels of motivation to have a future in either dentistry or medicine. Since the majority of the students came from educationally, socially or financially deprived backgrounds most URM students lacked “systematic study skills and a basic understanding of how to cope with the rigors of higher-level coursework in college or professional schools” (Markel, Woolfolk, & Inglehart, 2008, p. 657). Moreover, some of the students were aware that they were lacking some of the skills, even though they were performing well academically. Consequently, these students received support to identify and understanding the areas they were
lacking in, and this caused them to make “impressive and substantial gains in academic skills” (Markel, Woolfolk, & Inglehart, 2008, p. 657) in a short time frame. These gains occurred through one-on-one counseling sessions with an academic skills instructor, which provided URM students with objective information about the areas in which they lacked skills. These sessions allowed these students to receive the information in a confidential setting and allowed them to digest the information and set realistic and attainable goals for individual improvement (Markel, Woolfolk, & Inglehart, 2008).

**The gold standard.** In terms of increasing URM enrollment in medical education, there are a handful of programs nationally, but none quite as successful as the nation-wide pipeline program *Project 3000 by 2000*. This program, led by the Association of American Medical Colleges, was a comprehensive pipeline program that created unprecedented, yet, very collaborative partnerships among secondary and postsecondary institutions and health professions graduate schools, along with health care facilities, and members from the health industry. The focus of the program was interventions in education-pipelines. The project did not meet its numeric goal, of increasing the number of URMs enrolled nationwide in medical schools annually by 3000 students by the year 2000. This was largely in part because of decisions by the courts in several regions of the county that hampered affirmative action programs. Though it did not meet its goal, the program increased national URM enrollment in medical education by 36.3% and created some vital frameworks (AAMC, 2010; Terrell & Beaudreau, 2003).

Since the project required medical schools to complete specific requirements, it created a substructure to identify URM students interested in health professions, specifically medical school. “Project 3000 by 2000 envisioned an education pipeline that began at the beginning of
high school and ended at the end of medical school” (Terrell & Beaudreau, 2003, p. 1050). When students began the pipeline, his or her interest and aptitude to enter medical education could increase or dissipate (Project 3000 by 2000, 1992). The second area impacted was the academic intervention. “To enhance a student’s ability and desire to become a physician, Project 3000 by 2000 envisioned broad-based interventions that would influence the day-to-day experiences of students in the classroom” (Terrell & Beaudreau, 2003, p. 1050).

In order to participate, medical schools had to accomplish six major undertakings: (1) choose a coordinator for the project, either a faculty member or administrator; (2) perform a strategic assessment examining the past and present activities at the school; (3) pinpoint magnet high schools with high minority enrollment, which would receive academic enrichment opportunities; (4) create partnerships and agreements with high schools and colleges to ensure the pipeline is facilitating advancement to the later stages and reducing barriers that could hindered progression; (5) medical schools had to reassess their recruitment, admission, financial aid and academic programs and policies; and lastly (6) to ensure there is a welcoming and all-inclusive environment for the URM students (Terrell & Beaudreau, 2003, p. 1050).

There were several successful components to Project 3000 by 2000. The program created a public education campaign, which included medical school recruitment, retention, and academic achievement. Since medical school deans were involved, it created buy-in of this national initiative. Moreover, the program also was responsible for the uncharacteristic partnerships that were developed and funding sources that contributed to Program 3000 by 2000. The partnerships included “K-12 school systems, colleges, health professions schools and community-based organizations” (Terrell & Beaudreau, 2003, p. 1051). In addition, there was a compilation of research on minority academic achievement, which was beneficial for future
programs and initiatives. Lastly, there was an increase in the number of URM medical school matriculants by 12.4% of the total number of medical school matriculants between 1990-1994 (Terrell & Beaudreau, 2003). In the end, Project 3000 by 2000 concluded in 2000, two successful programs currently continue. The Health Professions Partnership Initiative, which provides funding to health professions and medical schools for partnership opportunities. The Minority Medical Education Program was a summer enrichment program to prepare URMs students for preparation for medical school.

In sum,

the important lessons from Project 3000 by 2000 was that affirmative action on its own will not be enough to close the diversity gap in medical school…to truly and adequately address the problem of minority underrepresentation, health professions schools must employ a broad spectrum of pragmatic and varied programs, each addressing a particular problem, and collectively promoting diversity on our nation’s college campuses. (Terrell & Beaudreau, 2003, p. 1051)

**Summary**

In the United States, an underrepresentation of minorities, specifically African Americans, Hispanics/Latinos, and Native Americans, exists in the health care workforce. This underrepresentation exists even as the number of racial and ethnic minorities in the country is rapidly increasing. By 2050, the projection is that underrepresented minority groups will replace Whites as the majority; yet, Whites currently make up the majority of our health care professionals. The lack of racial and ethnic minority representation within the health care workforce is a public health concern since URM health care professionals increases cultural competence, helps to eliminate health care disparities, and reduces inequities found in disadvantaged communities. In order to change the face of health care and increase the level of diversity, a paradigm shift is necessary.
There is a need for a multifaceted approach to increase the number of URMs in health care, but it must start with the educational system, beginning at the primary and secondary educational levels, and continuing through to college health professions programs. Changes must occur in areas such as the under preparedness of URM students in primary and secondary schools; earlier exposure to the health professions fields; policy and admissions changes at the college level, including a greater focus on qualitative, humanistic, qualities as oppose to quantitative (grand point averages and standardized test scores) numbers based approaches; and lastly, stronger recruitment efforts of URM students is needed for advancement.

Improving the number of URM students enrolled in health professions programs is essential to improving the lack of URM health professionals in the workforce. Although, URM populations are making marginal gains in representation in the health care workforce, the decreased number of URM students in health profession programs appears to be the overarching problem to improving these numbers (Sullivan, 2004). Under preparedness, lack of recruitment (through pipeline programs), limitations in admissions policies, and difficulties with retention appear to be major obstacles to this improvement. These obstacles necessitate a better understanding of URM students, the factors and barriers that influence their choice to pursue a health professions degree, and factors enabling what appear to be program successes. To accomplish this understanding, a closer look into the experiences of URM students is necessary to gain a diverse perspective. These new perspectives can assist in the creation or revision of programs that foster an increase in URM representation.
CHAPTER III

METHODOLOGY

Not everything that can be counted counts,

and not everything that counts can be counted.

~Albert Einstein

The research methodology is the blueprint of a research project and provides the steps for achieving the project outcome. The blueprint for this project begins with a qualitative design, employing a phenomenological approach. This chapter addresses both the approach and methods that enable the best description of the lived experience of underrepresented minority students enrolled in health professions programs.

Methodology Overview and Rationale

While both quantitative and qualitative research pursue the answers to questions, qualitative research is unique because the researcher studies a phenomenon through a descriptive and, sometimes, interpretive lens and asks broad, generalized questions to gain a better understanding of that phenomenon (Bernard & Ryan, 2010). Even when a theoretical frame or set of findings from earlier studies informs a qualitative study, the inquiry process remains open to the discovery of new, different, or extended understandings that introduce elements that were not distilled or fully developed from previous research. These findings can be unanticipated, as well as relevant beyond the nature of the study (Bernard & Ryan, 2010). The findings in new, revised, or more nuanced understandings, without the boundaries imposed by needing to specify a limited set of variables can be especially beneficial to studies that are designed to capture culturally specific conclusions about subjects (Creswell, 2008). Researchers pursuing the answer to questions about culture and meaning may find experimental and other quantitative approaches
to be insufficient, on their own, in explaining the phenomenon they wish to study, and as a result, qualitative research has become an increasingly popular method of investigation. In the case of this study, URM students customarily have dissimilar experiences and influences than majority students. Commonly, cultural differences can be at the root of these variations and may surface in this study as it explores the lived experiences of URM subjects.

**Qualitative Research**

According to Patton (2002), qualitative research attempts to provide an understanding for interactions with specific situations. Its purpose is not to predict, but more accurately to understand the attributes of the situation, as well as to impart the subjects’ meanings of what is happening to them during a particular moment. Additionally, the objective of qualitative research is to present findings honestly to others who are interested in the research topic. Furthermore, the researcher often wants to understand participants in a particular setting or context with an open frame in which to elicit a fuller understanding of how the subjects’ context, experiences, and life histories influence their experience of the phenomenon (Moustakes, 1994). Consequently, qualitative researchers willingly adapt their methods for addressing validity, reliability, and generalizability (at the crux of quantitative research) (Yin, 2009) through validation (Creswell, 2013) or trustworthiness (Mertens, 2005) to gain a better understanding and interpretation of what is really going on in a situation (Patton, 1996). Ultimately, qualitative research is focused on the social characteristics of the world at large (Bogdan & Biklen, 1992).

As it pertains to this study, the qualitative research method lends itself useful as the researcher sought to understand the lived experiences of URM students and how those experiences may have influenced their decisions to pursue health professions programs. Additionally, understanding the participants’ experiences in a pipeline setting provided context
to generate a richer understanding and interpretation of those lived experiences. This allowed the researcher the ability to convey the participants’ various perspectives on their experiences and present honest findings to other individuals interested in this topic.

Qualitative research continues to gain acceptance in public health, medicine, nursing, and education, in addition to its original use in the social sciences. It has become an essential tool in applied research due to its valuable insight into the perspective of the subjects being studied. These perspectives can be utilized to create far-reaching solutions to issues in diverse disciplines (Eakin & Mykhalovskiy, 2005). Since the purpose of my study was to explore the lived experiences of URM students coming from a pipeline program who chose to enroll in a degree-seeking health profession programs, qualitative research allowed me to gain valuable insight into this phenomenon.

In qualitative research, there are several different approaches to choose from and the research question(s) under investigation direct the choice of approaches. It is important to keep in mind that both my preferences and experiences helped to influence my choice in methods. I chose a phenomenological approach for my research study because my investigation pertained to the lived experiences of underrepresented minorities and the impact those experiences have on their pursuit of health professions programs in higher education.

**Phenomenology**

Creswell (2009) describes phenomenological research as a “strategy of inquiry in which the researcher identifies the essence of human experiences about a phenomenon as described by participants” (p. 13). Researchers of phenomenology focus on describing the commonality of participants as they experience a phenomenon and describe the collective essence of those experiences. Van Manen (1990) describes this basic premise as the “grasp of the very nature of
the thing” (p. 177), which identifies the “object of human experience” (p. 163). Moreover, Moustakas (1994) declares that the researcher discovers the fundamental nature of the participants’ experiences by capturing the universal essence of their descriptions. This description is comprised of the what and how of the experience (Moustakas, 1994). As the researcher in this study, I wanted to better ascertain the ways in which URM students understood and interpreted their own experiences leading up to entry into health professions programs in college and persisting in those programs. Phenomenology allowed me to come to the what and how of the URM students experiences.

**Philosophical perspectives.** Additionally, Stewart and Mickunas (1990) (as cited in Creswell, 2007, p. 77-78) highlight four philosophical perspectives in phenomenology. The first of the philosophies is returning to the original purpose of philosophy, which is the search for wisdom. Second, is to create a philosophy that is free from assumptions and suspends judgments about what is real. Husserl calls this suspension epoche. The third philosophy is the intentionality of consciousness. This philosophy deconstructs the notion of consciousness directed at an object and how the reality of the object relates to one’s consciousness. Husserl refers to this reality as the duality between the Cartesian nature of subjects and objects as they appear in consciousness. Lastly, the philosophy of refusing the subject and object dichotomy completes the philosophical perspectives. An individual's experience provides the meaning for the reality of an object (p. 5-9).

**Transcendental phenomenology.** Quantitative studies have focused a great deal on the correlation between factors like parental education, ethnicity, family socioeconomic status and academic ability for URM students enrolled in higher education institutions. However, descriptions of how students interpret these factors and their lived experiences are missing from
the literature. This study was designed in the hopes of expanding the current knowledge base of student lived experiences and how those experiences influenced their academic program choices. The best approach for discovering this information was through transcendental phenomenology.

According to Moustakas (1994), transcendental or psychological phenomenology focuses more on how the participants describe their experiences and less on the researcher’s interpretations. The overarching question guiding this study was how do URM students who have participated in a pipeline program reflect on their lived experiences and what experiences do they believe accounted for their decision to enroll in a higher education health professions program? Furthermore, Moustakas centers on Husserl’s concepts, *epoche* (or bracketing), wherein researchers separate their experiences, as much as possible, in order to view the phenomenon from a new perspective. Therefore, “transcendental” denotes “in which everything is perceived freshly, as if for the first time” (Moustakas, 1994, p. 34). Moustakas acknowledges that this condition is rarely accomplished, and so he suggests researchers bracket out their personal views or experiences before they begin their research.

In addition to bracketing, empirical transcendental phenomenology pulls from Duquesne Studies in Phenomenological Psychology (Moustakas, 1994). Furthermore, it focuses on how researchers like Van Kaam (1966) and Colaizzi (1978) analyzed the data and gave it meaning. Moustakas (1994) illustrates this process in several steps. The first step is identifying the phenomenon. The next step is bracketing out the researcher’s experiences. After that, gathering the data occurs from several participants who have undergone this phenomenon. Next, the researcher creates themes from the data collected from the participants. Lastly, the researcher describes what the participants experienced, how the participants experienced the phenomenon or a combination of the two to communicate the overall essence of the experience. I used a
combination of the final two approaches because, ultimately, I asked URM students who participated in a pipeline program to reflect on their lived experiences and identify what experiences they believed accounted for their decision to enroll in a higher education health profession program. Additional sub-questions focused on as well. The sub-questions included:

1) How did the URM students’ interest in the health professions begin?
2) How do URM students develop and maintain their interest in the health profession?
3) What led URM students to actually decide to enroll in the health professions program?

Along the way, what were the inhibitors and what were contributors to enrolling?

**Study Setting and Subjects**

Previously, I provided an introduction for this study, discussed the design and the approach for this phenomenological study. This section includes information about the study subjects and the setting.

**Setting**

There are successful pipeline programs on both the East and West Coast of the United States, some of which have published findings on their pipeline successes. Very few studies, however, have focused on the Midwest Region of the U.S. or URM health professions students’ lived experiences and encounters with the health professions pipeline. As a faculty member working in a health professions program, I have a vested interest in this study and its outcomes. The study focused on students from three pre-college pipeline programs who were enrolled in one of four university health professions programs in the region. By utilizing these programs as a conduit for identifying the participants for this study, it was more of a streamlined approach to procuring the participants for participation.
Subjects and Sample Size

The recruitment of subjects is the initial step in the data gathering process. Qualitative research studies typically use a small number of subjects, but sample size is still pertinent. The general rule of thumb is the sample size should create a saturation or redundancy in the data. At the point of saturation, no new information will occur and the researcher will continually encounter the same information (Pitney & Parker, 2009; Creswell, 2009). The participants in this study were students who had completed a pre-college pipeline program and entered into a health professions program at a university in the Midwest. My sample size included approximately 8-16 URM students from health professions programs who have experiences with pipeline programs for recruitment into health professions programs.

As the researcher, I need to be aware of both the ethical and effects on studying human subjects. Van Manen (1990) says to keep the following in mind:

- The researcher may have certain effects (hope, increased awareness, moral stimulation, insight, etc.) on the people with whom the research is concerned.
- There are possible effects of the research methods on the institutions where the research is conducted.
- The research methods may have lingering effects on the actual “participants” involved in the study. When done well these intense conversations may lead to new levels of self-awareness and/or shifting priorities of living.
- Phenomenological projects and their methods often have a transformative effect on the researcher as it is often a form of deep learning, leading to a transformation of consciousness, increased thoughtfulness, and so on. (p. 162)

In phenomenology, subjects are active agents who individually construct their lives and experiences. Consequently, I had to remember this when recruiting participants for my study and was mindful of the potential effects this experience may have on them.
**Sampling Design**

The qualitative sampling method that I used for this phenomenological study was a combination of criterion-based and purposeful sampling. According to Creswell (2008), purposeful sampling occurs when researchers select specific individuals and sites in order to “learn or understand the central phenomenon” (p. 214) and criterion-based sampling includes individuals and sites that are selected based on a predetermined set of criterion (Patton, 2001).

The purposeful sampling for this study included URM students from Midwestern universities who completed a health professions pipeline program and chose to pursue a health profession program in college. Criterion-based sampling occurred for the participants based on inclusionary criteria which included: being an underrepresented minority, currently enrolled and attending a health professions programs, and have completed a selected pipeline program.

**Recruitment and Consent Procedures**

Recruitment, screening, and selection of potential human subjects are the basis of informed consent process. Both the researcher and the Human Subjects Institutional Review Board (HSIRB) are responsible for producing a recruitment setting that is effective, ethical, and compliant with the federal and institutional regulations. Therefore, the researcher is accountable for creating and maintaining procedures for the recruitment, screening, and selection of potential subjects. Additionally, this process should demonstrate and reflect dignity and respect for potential subjects by circumventing any possible unwarranted influence and by safeguarding both the individual’s privacy and the confidentiality of all the information attained for recruitment and selection purposes.
HSIRB

Before any recruitment occurs, HSIRB must approve the study (see Appendix A HSIRB Approval). There are approximately eight areas the researcher presents to the committee. The researcher provides a detailed project description, the general and specific benefits to the subjects, a detailed process description of subject recruitment, any risks to the subjects and how the researcher intends to protect the subjects, a description of how the data will be kept confidential, how will the data be collected, and the informed consent process.

Recruitment

In the Midwest, there are approximately 20 university-based pipeline programs specific to recruitment for health professions programs, three of which met my selection criteria. I chose to focus on health professions students who attended schools within a three-hour driving distance from me since those programs supply the majority of the health professionals to the Midwest and are close enough in proximity that there was an increased opportunity for face-to-face interviews. Given the criteria above, there were four different universities with programs. I sent emails to the program directors at these universities (see Appendix B Program Email). The purpose of the communication was to explain my reason for contacting them. First, I conveyed that I am working on a research project for the completion of a doctoral degree from Western Michigan University. I also explained that the focus of the dissertation is on URM students who have attended pipeline programs, and currently enrolled in health professions programs at a university. All the program directors responded to my email communication. Next, I scheduled follow up phone calls and/or Skype communications to further discuss the proposed research project and to establish if these programs were a good fit (meaning they are a later exposure pipeline, in the Midwest region within three hours’ drive from the researcher, and had an academic year pipeline
program) to facilitate the pool of possible subjects (see Appendix C Initial Program Investigation).

Once all the necessary paper work was complete, dissertation proposal defense and HSIRB forms were submitted and approved, I contacted the programs again. During this contact, I requested that the programs email an invitation to their program participants (see Appendix D Program Email with Invitation). The invitation contained my information and the purpose of the study (see Appendix E Invitation Flyer). It also contained a link to a Survey Monkey survey, which included an assent statement—the purpose of the study, why they are being asked to participate, what will happen during the study, any potential benefits and problems, and also inform them that a consent form will be completed before the actual interviews take place. Additionally, the Survey Monkey survey requested demographic information from the potential participants: (1) the university that they attend; (2) the health professions program they are enrolled in; (3) the pipeline program they were in; (4) their race; (5) contact information, which included name, email address, and telephone number. In addition, the survey informed the participants that they would be entered in a drawing for a chance to win one of two $25 gift cards as a thank you for participating (see Appendix F Screening Protocol: Introduction to the Study). The invitations were sent out in early summer of 2015 and again in late summer and early fall to achieve the desired number of study participants.

Based on the information collected through the online survey process, students who met the study criteria of being a URM, a student in a health professions program, and attended a pipeline program were selected to participate. I continued with this process until the desired number of participants were met. I received several participants from the same school, so I sent out a reminder email one week after the invitation was emailed and an additional email during
week two to generate additional participants, as the preferred outcome was to have participants from different schools. After a two-week period, which turned into several weeks, no additional participants responded, so I moved forward to the next step. To reach saturation, I implemented the same process of sending out reminder emails (see Appendix G Follow Up Email Reminder to Complete the Survey Monkey). Next, I contacted the participants by phone and email and set up an interview, as well as asked some initial questions to build trustworthiness (see Appendix H Participant Confirmation Email for the Initial Telephone Call and see Appendix L).

Consent

Informed consent is an imperative part of the study process and requires more than acquiring a signature on a form. Researchers must educate potential subjects to guarantee they can make informed choice about participating in the study. Their informed consent must occur freely, without coercion, and with a clear understanding of what participation involves (Kruger & Casey, 2009).

The discussion about consent occurred in an amount of time that allowed the participants to understand the purpose, procedures, potential benefits and risks they may possibly endure. The procedure began with the participants receiving written and oral information about the research study. They were encouraged to ask questions to understand and learn more about the process and the study. Next, I reviewed and discussed the details of the study referencing the informed consent document. This discussion included all the required elements of informed consent, such as the purpose of the research, the procedures, the risks, and potential benefits associated with participation. The participants received a copy of the document and were requested to read over the document and ask any questions. I obtained a signature on the
informed consent document, the participant received a copy of the document, and I kept the original (Partners Healthcare, n.d.) (see Appendix H).

**Data Collection**

Generally, there are two ways of collecting data if one wants information about the lived experience of a phenomenon from another person. The first is the traditional face-to-face interview, and the second is one can ask for a written (or recorded) account of the experience (Giorgi, 2009).

**Approach**

I used individual phenomenological interviews to collect the data for the study, as it was a good approach for understanding individual lived experiences, and so it was the appropriate data collection approach. In addition to the individual interviews, anecdotal records like field notes and my journal were used to provide additional data for the study.

**Individual interviews.** Seidman (1998) indicates that interviewing is an ideal inquiry method since it is “most consistent with people’s ability to make meaning through language” (p. 5). He contends that interviews are valuable because they function as an excellent way of providing equitability in research since the utilization of subjects’ ideas occurs for the research. The interviews can become liberating and transformational because their very essence directly gives voice to the subjects’ concerns, beliefs, and values, which is the real purpose behind qualitative interviewing to provide a deeper understanding of social phenomena (Creswell, 2007; Silverman, 2000). There are three ways to conduct interviews, through structured, semi-structured, and unstructured question formats. For the purpose of this study, the interviews were semi-structured and contained open-ended comments and questions (Creswell, 2007; Moustakas, 1994). Moustakas (1994) suggests that phenomenological interviews have an informal nature
about them that allows more of a social conversation and dialog, which assists the subjects with becoming more comfortable with sharing honesty and gaining trust in the researcher.

The Interviewing Process

This section will cover the way in which I collected the data from the interview participants. I chose interviewing because it is a means of finding out from the participants information I cannot observe, which included their thoughts, feelings, and intentions (Patton, 2002). Therefore, interviewing allowed me to enter the participants’ perspectives, which allowed me to gather their stories. Patton (2002) cautions, “the quality of the information obtained during an interview is largely dependent on the interviewer” (p. 341).

Interview format. To collect qualitative data, three different interview approaches are used and each serves a slightly different purpose. For the purpose of this study, I used the interview guide approach. This approach used a guided list of questions that ensured the similar basic lines of inquiry for the interview participants. This guide provided subject areas that the interviewer “is free to explore, probe, and ask questions that will elucidate and illuminate that particular subject” (Patton, 2002, p. 343). This allowed the interviewer the freedom to “build a conversation within a particular subject area, to word questions spontaneously, and to establish a conversational style but with focus on a particular subject that has been predetermined” (p. 343).

The interview guide is advantageous for several reasons, but one of the biggest advantages is that it ensures that the interviewer has carefully decided how to use the interview time by making it more systematic and comprehensive (Patton, 2002). This occurs because the discussion issues have been predetermined. Patton (2002) states that an interview guide is “essential in conducting…interviews for it keeps the interactions focused while allowing individual perspectives and experiences to emerge” (p. 344). These guides can be more or less
detailed depending on how much the interviewer can predict important issues in advance and the
importance of having the same sequence of questions for the subjects. However, additional
topics can emerge during the interview that are important to the subjects involved but do not
appear in the interview guide. This can be due in part to subjects hearing each other’s responses,
which can trigger additional comments (Patton, 2002).

*Three-phase qualitative interview.* According to Seidman (1998), there is a three-phase
interview approach for achieving an in-depth interview, which will provide an understanding for
the subject’s experience. In the first phase, the focused life history, the interviewer's task is to
contextualize the subject’s experiences by asking him or her to share as much information as
possible pertaining to their experience with the study topic. I wanted to understand the
experiences of URM students as it pertains to them entering college health professions programs
and their involvement in pipeline programs. The second phase, the details of experience, the
focus is on the concrete details of the subject’s current lived experiences regarding the study
topic, specifically, the participant’s experiences in college health professions programs. Lastly,
the third phase, reflection on the meaning, the subjects reflect on what the experience means to
them. This phase built on the information I collected from the previous two phases. It is the
intention of the interview to discover how the subject makes sense of their experiences, and how
this relates to their other life experiences (Seidman, 1998). The three-phased process provides
the vehicle to collect enriching data and allows trust to develop between the researcher and
subject. Ideally this process takes time, and so it was anticipated to take two to three hours.

*Capturing the interview.* Regardless of the type of interview being done and how
careful the interviewer is at wording the questions, if the capturing of the actual words does not
happen, then the study is futile. “The raw data of interviews are the actual quotations spoken” by
the subjects (Patton, 2002, p. 380). There is no substitute for this data. It is “the prize sought by
interview process itself—that is, during the data collection phase—the purpose of each interview
is to record as fully and fairly as possible that particular interviewee’s perspective” (p. 380).
Therefore, it is essential to record precisely the responses of the subjects.

Interviews for this study were conducted via face-to-face, Skype, and by telephone. Once
the interview date, time and location were agreed upon, a follow up email was sent to the
student, reiterating the study purpose, reinforcing they can discontinue the study at any time, and
that they would choose a pseudonym to protect their identities. In addition, the restatement of
date, time, and location of the interview occurred (see Appendix H). I sent a reminder email,
when possible, five days prior to the interview to remind the student of the interview (see
Appendix I Reminder Email about Interview 5 Days Prior to Interview). After I completed the
interviews, I sent email thank you notes to the students thanking them for participating, and the
winners of the drawing received their e-gift cards.

Multiple mediums provide the best picture of the subject’s experiences, I used a few
different methods to capture the data, including notes and audio recordings (Patton, 2002;
Krueger & Casey, 2009).

Notes. According to Patton (2002), notes serve four purposes. The first purpose is that
the notes “can help the interviewer formulate new questions” (p. 383) during the interview. The
second purpose is that “looking over field notes before transcripts are done helps make sure the
inquiry is unfolding” (p. 383) in the right direction for the interviewer. The third purpose is that
taking notes “will facilitate later analysis, include locating important quotations” (p. 383). The
fourth and last purpose is that notes can serve as a backup in case any malfunctions occur with the media used.

**Audio recording.** I used a digital voice recorder to record the interviews, as well as field notes/journal as supplemental material (Krueger & Casey, 2009). I sent the audio recording to a transcription service in Michigan for transcribing. I chose this approach because it is efficient and still protects the identities of the moderator and the participants. I reviewed the transcripts for accuracy and shared them with the participants. This is referred to as member checking. I will address member checking in more detail in the validity and reliability section.

**Data Analysis**

Qualitative analysis takes data and transforms it into findings. There is not a formula, only guidelines, but ultimately the “final destination remains unique for each inquirer” (Patton, 2002, p. 432). Since there are only guidelines, the name or description does not matter, noting that nothing “can substitute for the skill, knowledge, experience, creativity diligence, and work of the analyst” (Patton, 2002, p. 432). Since each study is unique, and each researcher is different, no two analyses are the same. “The human factor is the great strength and the fundamental weakness of qualitative inquiry and analysis” (Patton, 2002, p. 433).

One of the challenges of qualitative analysis is for the researcher to make sense of a substantial amount of data. Patton (2002) suggests “this involves reducing the volume of raw information, sifting trivia from significance, identifying significant patterns, and constructing framework for communicating the essence of that the data reveal” (p. 432). He goes on to say that no prescription exists for establishing significance, and there is no way of knowing the thought process of the researcher. Additionally, in qualitative research there is no clear-cut test for reliability and validity. Patton’s (2002) advice is to “do your very best with your full intellect
to fairly represent the data and communicate what the data reveal given the purpose of the study” (p. 432).

During the course of the analysis, the purpose of the study should be at the forefront of the process. The purpose of the study governs the actual complexity of the analysis. In both qualitative and quantitative analysis problems surface when there is a discrepancy between the problem and the resources used for the analysis. These discrepancies can cause an elaborate analysis of trivial data or inadequate analysis of a complex problem of major concern. The researcher must remember the intent of the study and regularly weigh choice against two factors: available resources and the value of more in-depth analysis. (Krueger & Casey, 2009, p. 114)

To mitigate this, I kept the purpose of the study in mind throughout the analysis and reflected on it often during the process.

**Phenomenological Analysis**

Phenomenological analysis “seeks to grasp and elucidate the meaning, structure, and essence of the lived experience of a phenomenon for a person or group of people” (Patton, 2002, p. 482). In theory, it attempts to remove anything that characterizes a preconception or assumption. It necessitates the ability to observe things openly, undistributed by the ways of the natural world. In transcendental phenomenology, the philosopher and researcher Edmund Husserl believed that transcendental phenomenology encompasses the concept of intentionality, which “refers to consciousness, to the internal experience of being conscious of something; thus, the act of consciousness and the object of consciousness are intentionally related” (Patton, 2002, p. 483). It means that this is created when the object emerges into an individual’s consciousness, blends with the object in nature “what appears in consciousness is an absolute reality while what appears to the world is a product of learning” (Moustakas, 1994, p. 27). Both the act and object of consciousness are related purposefully; therefore, intuition is critical to the description of
anything that presents itself in Husserl transcendental philosophy. He preferred utilizing
intuition instead of deduction. Moustakas (1994) summarizes intentionality and its challenges
for meeting it, in four ways:

1. Explicating the sense in which our experiences are directed;
2. Discerning the features of consciousness that are essential for the
   individuation of objects (real or imaginary) that are before us in consciousness
   (Noema);
3. Explicating how beliefs about such objects (real or imaginary) may be
   acquired, how it is that we are experiencing what we are experiencing
   (Noesis); and
4. Integrating the noematic and noetic correlates of intentionality into meanings
   and essences of experience. (p. 28-32)

Since intentionality is core to the framework of transcendental phenomenology, it is essential to
meet the demands this concept presents.

Researchers delve into understanding the data, they have four main areas they must
utilize in the phenomenological research analysis process: Epoche, phenomenological reduction,
imaginative variation, and synthesis.

**Epoche.** The first step in the process is what Moustaka’s (1994) refers to as epoche. It
occurs throughout the data analysis process. The etymology of epoche is from the Greek, and it
means refraining from judgment, nonparticipation in everyday occurrences, perceiving things in
an ordinary way. Naturally, we are judgmental about what we know and we presuppose our
perceptions of life experiences are exactly how we perceive them. “In the Epoche, the everyday
understandings, judgments, and knowings are set aside, and the phenomena are revisited,
visually, naively, in a wide-open sense, from the vantage point of a pure or transcendental ego”
(Moustakas, 1994, p. 33). Patton (2002) describes this process as being where “the researcher
looks inside to become aware of personal bias, to eliminate personal involvement with the
subject material, that is eliminate, or at least gain clarity about, perceptions. Rigor is reinforced
by a ‘phenomenological attitude shift’ accomplished through epoche” (p. 484). Patton (2002) goes on to say, “epoche is an ongoing analytical process rather than a single fixed event. The process of epoche epitomizes the data-based, evidential, and empirical (vs. empiricist) research orientation of phenomenology” (p. 485).

**Phenomenological reduction.** The second step in the analytic process is phenomenological reduction. This also occurs throughout the entire data analysis process. In this step, the researcher looks at the data in its pure form by bracketing out their own preconceptions of life experiences and does not place standard meanings on the observed. This allows the data to be “uncontaminated by extraneous intrusions” (Patton, 2002, p. 485). In bracketing, the researcher handles the data by attempting to uncover, define and analyze its true elements. According to Denzin (1989), bracketing has five steps:

1. Locate within the personal experience, or self-story key phrases and statements that speak directly to the phenomenon in question.
2. Interpret the meanings of these phases, as an informed reader.
3. Obtain the subject’s interpretations of these phrases, if possible.
4. Inspect these meanings for what they reveal about the essential, recurring features of the phenomenon being studied.
5. Offer a tentative statement, or definition, of the phenomenon in terms of the essential recurring features identified in step 4. (p. 55-56)

Upon completion of the bracketing process, all of the data’s elements and perspectives can be treated and viewed in the same way; meaning the data is now horizontalized. “The data are then organized into meaningful clusters. Then the analyst undertakes a delimitation process whereby irrelevant, repetitive, or overlapping data are eliminated” (Patton, 2002, p. 486).

**Imaginative variation.** In the third step of the analytical process, the researcher takes the data and identifies invariant themes, so that he or she can perform an imaginative variation. This process allows the researcher to look at the same data from different perspectives. In addition, the researcher also forms enriched accounts of the invariant themes. In “using these
enhanced or expanded versions of the invariant themes, the researcher moves to the textural portrayal of each theme—a description of an experience that doesn’t contain that experiences” (Patton, 2002, p. 486). In these textural portrayals, the experience is abstract, and that furnishes both the content and the picture, but not the fundamental nature.

From here, the researcher creates a structural description, which comprises the framework for the experience for the subjects studied. This is “a way of understanding how the co-researchers as a group experience what they experience” (Moustakas, 1994, p. 142). Patton (2002) explains “in the structural syntheses, the phenomenologist looks beneath the affect inherent in the experience to deeper meanings for the individuals who, together, make up the group” (p. 486).

**Synthesis.** The last step in the process is synthesis. This step requires the researcher to integrate both “the composite textual and composite structural descriptions, providing a synthesis of the meanings and essences of the experience” (Moustakas, 1994, p. 144). The essence is the condition or quality of what it is, which is it is the final truth.

**Interview Analysis**

Once the interviews were completed, transcription of the responses occurred. Prior to the transcription process, I asked each of the interview participants to choose a pseudonym. I used complete transcripts of the interviews to analyze the data referred to as transcript-based analysis. I read the transcripts of the interviews several times to gain a good understanding of the data. Additionally, I looked at the interviews in two different ways. First, I examined the interviews individually, looking for phrases and concepts that stood out, and I wrote short narratives about each interview. Next, I looked across the interviews to identify phrases and concepts that share commonalities. This helped to identify general themes and to explore the meaning of the
experiences. Field notes/journal supplemented the transcripts. This type of analysis is useful in studies in academic settings where being wrong has high consequences. The disadvantage of this type of analysis is that it requires more resources than other methods (Krueger & Casey, 2009). The utilization of computer software called NVivo assisted in the process, as it is specific to qualitative analysis. This allowed for coding to occur at various levels in the data. The software looked at the data more closely helped to identify patterns and factors of central importance, and relationships between ideas and concepts. This helped to create initial themes referred to as general nodes. Moreover, the creation of additional nodes including analytical and/or topic codes occurred as well. Since the same basic questions are being asked, some auto coding occurred based on thematic coding that looks at existing coding patterns. Lastly, the utilization of my notes/journal assisted with additional coding, and the data summarized into framework matrices, which included grids and rows for each case node with a summary of the text. The advantage of using this software was that it “help manage large sets of text. It helps an analyst look very carefully at the data” (Krueger & Casey, 2009, p. 123). The downside is that it is time consuming to learn and operate the software.

Validity and reliability check. In addition, I used a combination of analytic frameworks. I analyzed the data from both a constant comparative and critical incidents framework. I looked for patterns in the data and the relationship between ideas and concepts, as well as attempted to identify the factors of central importance (Krueger & Casey, 2009). Moreover, I used data triangulation, which included information collected during the initial phone interview, the actual interview, and any field notes collected during the interview. This decreased the potential for bias because the data was collected at different times. In addition, member checking occurred. The participants were asked to review the transcripts for accuracy
and clarity. I sent an email to participants asking them if they would like to clarify or add anything to the transcripts, and I gave them a 10-day deadline to respond. If I did not receive a response by then, I assumed no changes needed to occur. Lastly, I had an expert audit review done, since this is my first qualitative study. The external auditor is a disinterested party who will, therefore, render an impartial judgment on the quality of the data collection and analysis (Patton, 2002). This auditor looked at both the process for dependability and the product of the research study for accuracy and confirmability, as well as to evaluated if the data supported the findings, interpretations, and conclusions. The auditor submitted her findings in the form of written documentation referred to as a reviewer’s appraisal. The advantages to using an external auditor are that they foster accuracy and validity in the study and provides validation to the researcher for his or her work. The disadvantages are the auditor could disagree with the researcher’s interpretations or have a different perspective altogether (Lincoln & Guba, 1985; Miles & Huberman, 1994). According to Lincoln and Guba (1985), the auditor should be an expert in qualitative methodology, someone who has a considerable amount of experience and credibility is considered trustworthy, and a party who has no interest, connection, or affiliation to the study. Mine was all of these.

Saturation. “Saturation occurs when new data are no longer emerging to contribute to the analysis and the analysis is well defined and demonstrates variation” (Howlett, Rogo, & Shelton, 2014, p. 327). In other words, when during the data collection process after interviewing a number of participants), if no new information surfaces from additional interviews, the researcher has reached saturation for this study. During this study, I determined that saturation was not met. This inability to reach saturation was likely due to the lack of
richness in the data that was collected through the interviews and perhaps, the lower number of participants in the study.

**Presenting the data.** To report the findings of the study, I used the traditional mechanism for interview reporting, which is narrative reporting. This approach can be lengthy in nature as it uses quotations but it provides a detailed picture of the information.

**Tinto’s Student Departure Model Analysis**

Upon completion of the interview analysis, the themes were compared to the theoretical framework of Tinto’s Student Departure Model as revised by Guiffrida (2005), which reflects more of a cultural presence than Tinto’s model. This provided additional insight into understanding the student’s lived experiences as compared to the traditionally identified influences that establishes if these students persist in health professions programs.

**Delimitations and Limitations**

Delimitations and limitations are part of every study and influence the way in which the study is conducted and how the data is analyzed. This study was designed with an intentionally narrow focus, specifically underrepresented minorities, in college health professions programs, who “graduated” from a high school pipeline program in the Midwest. This delimitation creates an issue for generalizing the study across other populations and settings but allowed me to capture data from a more specified group of students. In addition, the way in which the pipeline programs were defined, using a K-12 pipeline whose program runs the academic year, versus a K-16 or K-20, was a delimitation. I chose to define the pipeline program in this way because these programs appear to provide students with additional opportunities for exposure to college curriculum and to better prepare students for success in college. Also, using the pipeline program to identify the participants was limiting to the study as well. In addition, the length of
time between completing the pipeline program and participating in the study was limiting because participants had difficulty recalling detailed information pertinent to the study. Moreover, using a qualitative study approach is limiting to the study because researcher bias is unavoidable regarding the interpretation of the data. I did take every precaution to avoid this bias, but my experiences as an educator and URM possibly influenced my interpretations.

Another limitation was utilizing an interview approach to collecting the data because of the time-consuming nature of the process and the volume of data to interpret. Lastly, the limited number of participants was a limitation. The original number was between 8-16, but it ended up being seven. Additional participants may have created more overlap in the information provided by participants.

**Reflexivity**

The significance of choosing a research topic often connects to the lived experiences of the researcher conducting the study. This study is no different. While I have never been involved in a health professions pipeline, I have always maintained an interest in the health professions field. As a child, I knew I wanted to work in the health professions field. My interest evolved from wanting to be a veterinarian to a physician assistant to a psychologist and eventually ending up in health education. This topic is of interest because of my own lived experiences in the health professions. I am an assistant professor teaching in a health professions program in the Midwest. I am an underrepresented minority, and I once was a URM student in a health professions program in the Midwest. I have a vested interest in this topic and in wanting to see changes in the future URM students in the health professions.

My own personal experiences could have affected the way I perceived the interview data—the way I may interpret it. When I was a health professions student at a predominately
White institution, it could be challenging at times. Sometimes, those microaggressions I mentioned in earlier writings came to transpire. Ideas such as stereotypes and assumptions arose about who I was and how capable would I be, or whether I would be lazy, smart enough or even trustworthy. Typically, this questioning took place during group projects. Other times, I felt invisible or unequal in the classroom. There were other times I felt as though I was speaking for my whole race, when in reality, I am only one person. Additionally, there were instances it felt as if the professor gave me a harder time than other students, or like I had a disadvantage to the White students. In all honesty, I do not know how I persevered and became a health professional. In hindsight, it was likely my upbringing. I have two parents who have persisted through a number of adversities, and they taught me that I could accomplish anything I set my mind to accomplish. Once I set my mind to succeed at something, failure is not an option.

In addition, other feelings emerged. On occasion, being one of only a few minority health professionals has led me to feel isolated and these feelings came into play during this study. My feelings of expected failure or not being good enough as a URM student or professional has the potential of influencing my views during the study. As a URM, feeling like I had to perform at a higher level or had less room for error than the majority health professional has the potential of influencing the way I perceive the data as well. I kept these items in mind as I interviewed, and analyzed the data collected from the interviews. I need to be able to see the data from a fresh and new perspective and my past experiences, while important, should have no influence on the study. Therefore, it is important to identify these potential influences early and constantly be aware of them throughout this study.
Chapter Summary

Given the goal of this study is to capture the lived experiences of URM students enrolled in health professions program, qualitative research methods offered the most appropriate means of capturing this data. Transcendental phenomenology allows the participants to describe their experiences to guide the understanding of the shared experiences rather than the researcher’s interpretations (Creswell, 2008). The institutions in the study were universities in the Midwest affiliated with yearlong pipeline programs. I attempted to recruit between 8-16 URM students as participants to undergo an interview to discuss the journey these students had taken to enrolling in health professions programs. I utilized interviewing to collect data in a manner that allowed individuals to candidly communicate their ideas (Krueger & Casey, 2009). A systematic approach to phenomenological data collection and analysis was then used, including the following: determining the phenomenon, bracketing my experiences with the phenomenon, collecting data through interviewing, and analyzing statements for emerging themes (Moustakas, 1994; Patton, 2002). Transcript-based analysis served as the primary analysis strategy, using transcripts of the interviews as the primary data source.

As a qualitative study, there were limitations, largely due to the role of the researcher in data collection (Patton, 2002). Limitations were reduced by following the same steps for each interview subject, presenting the same pre-planned questions to each interview participant to present the same experience for each participant (Krueger & Casey, 2009; Patton, 1990). The researcher documented her preconceptions to become aware of her biases in an effort to keep them from affecting the results of the study. This methodology allowed for valid, reliable, and ethical data collection, leading to important results, which may assist health professions
programs in recruiting and retaining URM students, and understanding how to help the students be successful in the program.
CHAPTER IV

RESULTS

Chapter three discussed the methodology, and the overall design of the study. This next chapter discusses the findings in the study, as well as the emergent themes, and begins with a brief overview of the study purpose.

Overview of Purpose and Research Questions

The purpose of this phenomenological study is to explore the lived experiences of URM students coming from a high school pipeline program who chose to enroll in degree-seeking health profession programs. The overarching question guiding this study was, how do URM students who participated in a pipeline program reflect on their lived experiences and identify what experiences they believe accounted for their decision to enroll in a higher education health professions program? Additional subquestions included:

1) How did the URM students’ interest in the health professions begin?

2) How do URM students develop and maintain their interest in the health profession?

3) What led URM students to actually decide to enroll in the health professions program?

Along the way, what were the inhibitors and what were contributors to enrolling?

Setting

This research focused on students who graduated from one of three high school pipeline programs and are now enrolled in colleges in the Midwest region of the country; I specifically focused on institutions within a driving distance of three hours or less because this increased the likelihood of conducting the interviews face-to-face. Although this study is focused on the experiences of students in university health professions programs, the high school health professions pipeline programs were used to recruit participants. The pipeline programs used for
this study were late exposure, meaning high school, pipeline programs that lasted the whole academic year and provided students with varying educational experiences, related to the health profession fields. While, three high school pipeline programs that met the above criteria were identified for the study, all participants who responded to the call for volunteers came from only one of the pipeline programs. This is an additional study limitation. However, even though the participants came from one high school pipeline program, they were currently enrolled in four different Midwestern universities and pursuing seven different health professions programs. I would like to note that during this study, mitigating circumstances required that the pipeline program change its original focus on only URM students to more of a broad focus which included students from the majority group.

Participant Recruitment and Selection

I focused on recruiting health professions students attending colleges within a three-hour driving distance from me since these programs supply the majority of the health professionals to the Midwest and are close enough in proximity, increasing opportunity for face-to-face interviews. Given the inclusionary criteria, three pipeline programs were identified for assisting with recruitment of participants who met the criteria for the study, but as I stated above, only one program produced participants. To recruit from the pipeline programs, I emailed administrators/teachers at the three programs to explain the purpose of my study and request assistance in recruiting potential participants. Next, I spoke with the program directors to discuss my study in more detail and to describe why I had chosen their pipeline program. Each of the directors for these programs agreed to forward an email invitation to their program participants graduates. By the end of the study, they ended up sending out the invitation on three separate occasions. The email invitation contained a description of the study, inclusion criteria, my
contact information, and a link to a screening survey (via Survey Monkey), which can be found in the appendices.

If a student met the study criteria of being a URM, a student currently in a health professions program, and had completed one of the identified pipeline programs, they were selected to participate. Based on the information collected through the screening process, nine participants met the criteria. However, two potential participants did not respond to multiple contact efforts and therefore, were not interviewed for this study. In total, seven participants were interviewed.

**Participant Descriptions**

In regards to the study participants, no demographic data such as age or income was collected since it was not relevant to the focus of the study, and to better protect the participants’ confidentiality. Rather than reporting demographics, in this section a brief description of each participant is provided.

**Eva.** Eva is a Hispanic female student who completed the pipeline program and attends a university to study radiation therapy. She has no family in the health care field and finds school to be enjoyable. She is considering changing her major to education because she finds that health care programs are overly competitive in regards to the admission process and are difficult to get into. Eva does not like to compete against others because it is not in her nature. She wants to have a good career where she can make money, but she is also interested in a health care career due to her personal experience with her mother surviving breast cancer. Eva grew up lower middle class and her family struggled financially, so she also chose health care to live the “American dream” financially.
**Amelia.** Amelia is a Hispanic female who completed a pipeline program and is at a university studying in a pre-medicine and psychology track. She has no family members in the health care field and indicates that she chose a health care career because she wished to help others. Amelia never really thought about going into health care until she was exposed to the pipeline program in high school, which made her realize she wanted to go into medicine. The real reason she enrolled in the pipeline program was because of the dual enrollment credits, which allowed her to earn college credits and save her parents money once she did enroll in college. Amelia reports that school can be challenging and worries that she is not as good a student as others because she is a first-generation college student.

**Mandy.** Mandy is a Hispanic female enrolled in Allied Health Sciences who completed a pipeline program in high school. Her sisters are studying or currently in the health care field. As a child, Mandy aspired to be a surgeon, but as she got older, she determined it would be too much schooling for her. Mandy was exposed to the health care field early on through her own personal struggles with asthma and has other health related problems that still follow her. She believes this could be one of the reasons she wanted to become a doctor. She enjoys school and reports school is easy when she is not distracted.

**Ashley.** Ashley is an African American female student attending a local university. She completed a pipeline program in high school, is majoring in Biology, and identifies herself as a pre-med student. She has no family members in the health care field and reports she became interested in being a doctor because of her mother’s diagnosis of breast cancer. She has done a great deal of research on cancer and attended multiple cancer conferences with her father starting at a young age. This is where she developed her passion for medicine. Her overarching goal is to enter the cancer research field. Ashley ended up in the pipeline program because her parents
researched programs and found the health care pipeline program she eventually enrolled in. She was the only student enrolled in the program from her high school, which she thought was odd because students can earn college credits through the program. She finds school easy and loves her science classes.

**Will.** Will is the only male in this study. He identifies as Hispanic. He reports that he always wished to be in the medical field in some manner. He does not have any family members in the health professions and did not indicate that any member of his family had any significant medical issues. He indicates that school is occasionally challenging, and he is better at science than he is at math. Will is studying medical diagnostic sonography and became interested in this health profession because of his exposure to the sonography machine while in the pipeline program. He feels radiology is a good field currently to work in. Will enjoyed touring the various hospital departments, especially the radiology department. He valued being able to “see patients without actually building a long-term relationship with them.”

**Julia.** Julia is a Hispanic female student attending a university. She participated in a pipeline program because a friend told her she could gain college credit in the program, and she felt this was a good opportunity since opportunities at her high school were limited. In addition, she could save money by not having to pay the money for the six college credits she took during the pipeline program. Julia has chosen to enter the health care field because she feels it is a good career choice that her family supports. Her family feels health care is a good career because of the job security, and the ability to be able to pay off future student loan debt. It is not a risky field to be in like other fields. She also reports wanting to help others as a reason. She finds school to be challenging and must work hard to do well in her courses. Julia is enrolled in a pre-
speech-language pathology program with the long-term goal of becoming a speech-language pathologist.

**Samantha.** Lastly, Samantha is a Hispanic student attending a Midwestern university to study nursing. She completed a local high school pipeline program because she could gain college credit, and “get her foot in the door at [school name].” Samantha was initially drawn to a medical career because of the time she spent around hospitals as a child since she had to receive a few surgeries. Initially, as a child, she wanted to be a doctor, but as she explored other health care fields she liked the nursing field best. Samantha chose nursing because of the communication and contact aspect of caring for patients. She indicates that she has a few family members in the health care field, but states that she did not have a close relationship with those members of her family. She finds school to be somewhat challenging but enjoys her classes.

**Description of Data**

The collection of the data is one of the most time-consuming processes of a study, but one of the most important pieces. In order to collect the lived experiences of the participants and provide me with the best insight into the URM experience, interviews were conducted.

**Process Implementation**

I used individual phenomenological interviews to collect the data for the study through a semi-structured question format that contained open-ended comments and questions. I chose phenomenology because it is a means of finding out from the participants their individuals thoughts, feelings, and intentions about their lived experiences. The best approach to capturing this information is through interviewing.

**Interview format.** For the purpose of this study, I utilized an interview guide with a list of semi-structured interview questions to direct the interview. This insured all participants
responded to the same questions and increased adequacy of data collection. In the initial interview, I asked four questions to the participants to help capture some basic information about them. Responses from the first interview informed the second interview because it provided initial information about the participants, some of which was expounded on in the second interview. During the second interview, eight questions were part of the guided list of questions. The questions were arranged in a three-phase interview approach, which started with a focused life history, moved into details of the experience, and ended with a reflection on what the experience meant to the participant.

**Capturing the interview.** Capturing of the participants’ lived experiences was essential to the study. I set up the second interview time during the initial interview. Interviews were conducted via Skype, and by telephone due to the time constraints of many of the participants and the locations in which they resided. All the initial interviews were done by telephone and averaged 15 minutes in length. For the second interviews, I interviewed three participants via Skype, and the four remaining interviews were conducted by telephone. Those interviews averaged 25-40 minutes in length. Each interview was recorded using QuickTime recording software and an audio recorder as back up. Additionally, I jotted down notes during the interviews and journaled after each interview was completed to capture my thoughts on the interview and keys points the participants made during the interview. Those notes and journal entries were used to supplement the interviews and provide insight into how well each interview progressed.

**Data Analysis**

Before beginning the analysis process, I engaged in bracketing by reflecting on my knowledge of pipeline programs and journaling about my thoughts. This process allowed me to
put aside any preconceived thoughts or ideas and allowed me to explore the data from a fresh naïve perspective.

I journaled about the assumptions I anticipated the participants would discuss about their pipeline and lived experiences pertaining to health professions’ programs. I assumed that participants would be exposed early to health professions either through a family member who was a health professional or because they/or someone they knew had been sick and utilized a health care professional. In addition, I assumed the pipeline programs better prepared the participants for the academic rigor of the health professions programs. Also, I assumed they would have experiences that pertained to them being an URM in health professions’ programs, and the historical lack of diversity in such programs. Lastly, I thought that for some of the URMs, health professions programs could be a struggle because of the heavy science and math components and some urban high school’s failure to prepare students for such academic rigor.

**Transcribing interviews.** Next, the audio recordings of the interviews were transcribed. Once the transcriptions were complete, I then emailed the transcripts to each participant for member checking where I asked them to check the transcripts for accuracy, to ensure the essence of their thoughts and responses were captured, and to ask if they wanted to add any additional information. None of the participants added or changed anything during the member checking process. I then read over the transcripts multiple times to gain insight into the participants’ experiences. Subsequently, I took butcher block paper and wrote down the aspects of the interviews that had similarities in regards to phrases and topic ideas. I also wrote down items that were unique to the interviews. This helped me to see a big picture of similar and differing ideas, all to gain a clearer understanding of the data. I thought about how those similar ideas and phrases compared to aspects I had read in the literature but refrained from placing values or
labels on the data at this point. This stage enabled me to gain an overview and familiarity with the transcripts and the data as a whole.

Once I gained a clear understanding of each interview separately, and all the interviews collectively, I wrote a brief vignette about each participant based on the information collected from the interviews. During this time, I again read each interview to assure that I was capturing the main aspects of each of the participants. Each time I read over the individual transcripts, I placed sticky notes capturing my additional thoughts, and highlighted text I felt may be important parts of the interview. Once this step was completed both the initial and second interview transcripts were put into one file for each participant and uploaded into Nvivo 11 software to aid in further organization and analysis of the data.

**Coding the data.** Using Corbin and Strauss’ (2014) constant comparison as an analysis strategy, the initial process of analyzing the data involved two stages: open coding and axial coding. I first reviewed the data and looked at each line of text. I highlighted each line or chunks of text and coded that text by providing a word or two as a tentative label that captured the idea of or what was occurring in that text, which created a node in Nvivo 11. I did this for each interview and line or chunks of text. This first stage of analysis was open coding and enabled me to start to visualize what the participants were saying. I next looked for relationships among the open codes and what were some of the natural connections that the codes contained. This helped me to create tree nodes in the software. This method of data analysis enabled me to interact with and immerse myself in the data, moving back and forth between coding and the beginnings of thematizing while analyzing the results. Because this method of analysis is not fixed, and does not have rigid demarcations between stages, I was able to constantly assess and reassess the data to reduce the information to the essence of the experience. This evidence from
the data provided support for the emerging categories and themes, which developed during the analysis. Examples of both my open and axial coding are in Table 1 and Table 2.

In addition to the use of the first two stages in the constant comparison process, I employed Saldana’s (2013) focused coding method. During the focused coding process, I read through the transcripts again and re-coded each of them, looking closely at the themes that had emerged during the open and axial coding processes and what parts of the data fragments fell underneath those themes and sub-themes. The remainder of this chapter presents the data from each stage of coding accompanied by excerpts from the interview data integrated into the analysis.

*Open coding.* The initial stage of data analysis was open coding. During this stage, I explored the data and analyzed it line by line to create coded units of meaning. These data fragments were labeled with terms that reflected my understanding of what the participant was conveying with that statement. The beginning codes and labels generated were temporary and adjustable. As participants were interviewed, and the transcripts analyzed, some labels shifted to reflect emerging ideas. Before finalizing the codes, I again compared each code against each interview and while the organization and placement sometimes changed, many of the initial codes were similar in concept to the finalized codes at the end of data analysis (See Table 1).
Table 1. *Open Coding Examples*

<table>
<thead>
<tr>
<th>Code</th>
<th>Data Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great program for minority students</td>
<td>I think it’s really important to have those kinds of programs especially for minority children because we/they need to feel appreciated. They need to feel like they can make it out there in this very tough economy. It’s really tough for underrepresented minorities. Help [increase opportunities for] minorities in the health profession. Just maybe that they are really important programs, especially … for minority health professions. The whole class was minority and at least half of the class went on to college.</td>
</tr>
<tr>
<td>Students felt they learned a great deal of information</td>
<td>I have learned so much of the terminology there that I still remember it; and I remember, so it’s neat that we can say Hey I can remember that or when there is something on TV medically related, oh yeah, I know what that is, so like the exposure just like the knowledge side knowledge aspect and the practicals too were really eye opening. I mean if you wanted to go into a university to take that you know that would really help. And I think everything that we did there was very impactful. I know once I was there everything that we did was very helpful. It was a lot about just like health care, and the different types of health care, and like PPOs and stuff like that. And so, I learned a lot of random stuff about insurance, which it ended up being helpful. That helped me a lot, because I now know I learned a lot more stuff than I thought, like things about viruses and things like that. I learned and it helped me later in like some of my health classes too.</td>
</tr>
<tr>
<td>More people should know about the program</td>
<td>Other than it was a really good experience, I just wish more students did it The program really should be pushed for people who are seriously considering nursing. I think it should definitely be something more high school students know about and something that they should really understand. You should definitely do this program because you'll knock out 6 college credits. Yeah, just that the program is really helpful, it's helped me a lot and I'm really glad I did it.</td>
</tr>
</tbody>
</table>

Axial coding. During the second stage of the constant comparison process, axial coding, the fragments of data from open coding were explored to search for any relationships and connections between codes to create a system of comprehensive categories and sub-categories (See Table 2). In this stage, the focus of the analysis shifted from identifying and labeling units of meaning to the creation of categories (Corbin & Strauss, 2014). The main result of this step in the data analysis enabled me to create categories and then to explore any possible relationships between categories.
Table 2. Axial Coding Examples

<table>
<thead>
<tr>
<th>Category</th>
<th>Associated Codes</th>
<th>Number of Participants</th>
<th>Data Fragments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>Getting an overview of concepts was helpful</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Group Based Learning</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Hands on Learning</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Projected Based Learning</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Family Influence</td>
<td>Family in health care</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>No family in health care</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Parents helped me make the choice</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Picked major to make parents happy</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>We were poor – lower middle class</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>School is...</td>
<td>Easy for me</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>First generation – confidence</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Have to work hard</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Not as difficult as I thought</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Stress and time management</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Time management</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The interview data was explored and refined using the constant comparison process. I compared the categories and subcategories to each other and iteratively revisited the data as interviews were coded and added to the dataset. Once this stage was completed, I began to employ focused coding.

*Focused coding.* In the final stage of data analysis, focused coding was employed to aid in my understanding of the participants’ experiences. Examining the categories and subcategories uncovered during the initial analysis process, I began to move the data into the categories and subcategories into which they seemed to appropriately fit based on relationship and connectivity. The themes were then examined and re-examined to ensure that the relationships and themes were appropriate and to search for further possible reduction.

This process resulted in the creation of four themes and four associated a priori constructs. These themes and constructs were then compared to the original narratives to assess
if they accurately described the lived experiences of the participants in the study. The themes and associated a priori constructs along with a count of participants and coded units are displayed in Table 3. The associated a priori constructs were utilized to frame the themes that reflected major pathways of student development that were evident in participants’ responses.

Table 3. *Emergent Themes and A priori Constructs*

<table>
<thead>
<tr>
<th>Emergent Themes &amp; A priori Constructs</th>
<th>Participants</th>
<th>Coded Data Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Access and Participation”</td>
<td>7</td>
<td>83</td>
</tr>
<tr>
<td>Motivation</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>Academic Self Concept</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Sensemaking</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>“Curriculum and Quality Teaching and Learning”</td>
<td>7</td>
<td>124</td>
</tr>
<tr>
<td>Motivation</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Academic Self Concept</td>
<td>7</td>
<td>58</td>
</tr>
<tr>
<td>Sensemaking</td>
<td>7</td>
<td>29</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>“Social and Emotional Development”</td>
<td>7</td>
<td>68</td>
</tr>
<tr>
<td>Motivation</td>
<td>7</td>
<td>31</td>
</tr>
<tr>
<td>Academic Self Concept</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Sensemaking</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>“Developing Social Capital”</td>
<td>5</td>
<td>54</td>
</tr>
<tr>
<td>Motivation</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Academic Self Concept</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Sensemaking</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

*External auditor.* After the creation of the themes, I had my external auditor look at the data and what themes emerged. The auditor is not only a qualitative expert, but also is a content expert on college student development. Through this process, we had a poignant discussion on
my emergent themes. We went through line by line of coded data, and at times, had some strong debates about the themes. This process ended up helping me more than I ever anticipated. Through our discussion, we determined that the themes that emerged were indeed the correct themes for this study. The auditor’s knowledge and perception was invaluable.

It is important to note, although the themes were somewhat rich and thick with description, due to the limited sample size, complete saturation was not reached. Participants offered many diverse viewpoints, and this information enabled the researcher to create themes that contained solid descriptions of their lived experiences. The results are reported by theme followed by a discussion of how the themes were employed to answer the research questions.

**Emergent Themes**

Several broad themes emerged and a priori constructs utilized from the data analysis. First, the participants’ lived experiences spoke to two main themes: their experiences from an academic view and from a socio-emotional view. Four main themes emerged from the data. The first theme that emerged is access and participation regarding the pipeline program. The second theme that was generated is curriculum and quality teaching and learning that was experienced during the participants time in the pipeline programs. The third theme is social and emotional development, as the participants evolved through their experiences. The final theme that emerged was developing social capital. In addition, the same four a priori constructs are utilized under each main theme. The a priori constructs are motivation, academic self-concept, sensemaking, and self-efficacy. Each construct was taken from participant responses and were reflective of concepts found in student development literature and could be seen under each major theme, thus the idea to use all four constructs under each theme came about.
Theme 1: Participating in the pipeline program was impactful if students could access the program ("Access and Participation").

This first theme encompassed participants’ remarks pertaining to access and participation in pipeline programs. While all the participants in this study completed the same pipeline program, they attended different high schools; how they learned about the program varied, however. Similarly, their reasons for participating in the pipeline program were also different. This theme speaks to the ways participants remembered their experiences while in the program, and how these encounters influenced their futures.

When speaking about how they joined the program several students spoke about the lack of general knowledge about pipeline programs available in their high schools. Ashley indicated that administrators in her high school did not mention the existence of the program. She said, “They [the high school administrators and teachers] put emphasis on AP classes and stuff but they never talked about it [pipeline program].” To her knowledge, Ashley was the only student from her high school to attend the pipeline program. She learned about the program through research her parents conducted and she had to pursue the knowledge about the program on her own, with little support from her high school.

Two of the participants indicated they learned about the program with the help of their guidance counselors. Amelia found the advice of her guidance counselor particularly helpful. She recollected, “She's like, ‘You need to try something now, take some college classes, see what you think. And if this isn't what interests you then at least you're not wasting your money once you go to college. You're doing it now,’ and so that was something that they always told us. Amelia liked the idea of trying out classes related to health care without incurring costs. She said, “I didn't know what I was exactly doing, so I'm like, I need to explore my options now."
The program enabled her and students like her to learn more information about the health care field before they started college.

Two participants indicated they learned about the program from peers who were attending the program. Mandy said, “When I was in school, it was junior and senior year that you could be in [the program]. I would hear them talk about what they were doing and stuff, and I was like, that sounds interesting.” She was interested after hearing about the program in passing and decided to pursue attendance. Julia reported a similar experience and said, “Actually, that kind of just happened. I had a friend who had also enrolled and she told me about it and she was like, ‘You'll get college credit, and it's for health care.’” She reported that she had few other options at her high school and decided that the program sounded interesting. Neither of these students intentionally sought out a pipeline program, and they did not learn about this option during meetings with guidance counselors. They were fortunate to have peers who attended a pipeline program and shared the information.

Two participants in the study commented about the lack of available information about pipeline programs. Julia said, “I think it should definitely be something more high school students know about and something that they should really understand, you should definitely do this program because you'll knock out 6 college credits.” She believed the program aided students in being ahead of their peers and enabled them to start planning their future health care endeavors. Ashley spoke at length about the value of the program and remarked:

I just wish more students did it. I feel that a lot of people get scared or they don't want to put in the effort to find out more about the program, that little stuff could change their whole course of what they decide in college and gain those relationships and stuff. . .

She believed if more people understood the program and what it entailed they would be enthusiastic about the opportunity. Based on the responses of the students, it seemed information
about the opportunity was limited, and students had to learn about the program independently. The high schools were not sharing information, which limited opportunities for others.

The final two participants indicated they were recruited into the program. Eva said, “I think it was kind of offered…ah, I got into the program my junior year. . . like towards the end and I was able to apply. I think [my teacher] got me into it.” She was approached by a member of the pipeline program faculty who told her about the program. The faculty member helped her during the application process and helped to facilitate her acceptance. Will simply said he was approached by a faculty member and asked to join the program. These participants were approached, in part, because of the faculty members being aware of their potential interests in health care.

In addition, participants in the study stated they felt the pipeline programs were a great option for minority students. The participants indicated that these programs were “really important” (Eva and Julia). Participants recognized that minorities were underrepresented in health care professions and using a pipeline program to increase early exposure was regarded as a positive method to use to increase minority representation. Eva, in particular stated, “they [minorities] need to feel like they can make it out there in this very tough economy. It’s really tough for underrepresented minorities.” It was interesting to note that Julia thought that these programs were important for minorities but did not realize that the target population for her program were minorities. Samantha spoke in detail about her experiences as a minority and compared high school to college:

I went to a high school that was pretty diverse, but when I went to college it was almost like a culture shock because I would be like 1 of . . . depending on the class, maybe 1 out of 8 students that was Hispanic. It was really culture shock. . . My cohort ended up being 74. . . There [were] no African Americans. There was 2, well 1 Mexican besides me, and then another girl that was from Venezuela, and
that was it. Everybody else was White. It was pretty interesting to see the lacking for more minority students to be in college overall.

As I looked at how the participants experienced their involvements in the pipeline programs, four a priori constructs were visible: motivation, academic self-concept, sensemaking, and self-efficacy, which are prevalent in student development literature. The motivation a priori construct reflects responses about the intrinsic and extrinsic factors that influence the participants’ abilities (Baker, 2004) within the theme. Academic self-concept are responses that reflect the participants’ perception of their ability to be academically successful (Marsh & Shavelson, 1985). Participant responses that reflected giving meaning to their experiences (Weick, Sutcliffe, & Obstfeld, 2005) were placed in the a priori construct of sensemaking. And the self-efficacy a priori construct reflects responses concerning the participants’ beliefs that their performance can achieve the result they prefer (Bandura, 1977) within the theme.

**Motivation.** Students spoke about the motivating factors for enrolling in pipeline programs. This a priori construct sheds light on why the participants would have interest in programs such as pipelines.

Several of the participants spoke about the importance of the college link to the pipeline program. The participants felt it was helpful to gain both experience and college credits while still attending high school. It was perceived as a positive route for students to take to shorten their time in college. Samantha stated:

> [In] our 2nd year, they gave us the option of continuing to do that same thing [take classes at the high school], or taking the class at [school name], which would count for college credit. Then, I was like okay. That's a foot at the door at [school name]. Might as well do that. Get some experience. Get a little bit more college credit.

She was eager to pursue the chance to take courses at the local university. She was quick to see advantages inherent in acquiring college credits and becoming familiar with the higher
education institution. Her initial attraction to the pipeline program was because it was used to encourage minority students into the health care field, however, Samantha did not realize the true disparities in minority representation in that field until she began to attend university.

Julia found the ability to acquire college credits in the pipeline program to be extremely beneficial. She spoke about her experience in some detail and stated:

As far as benefits, I gained 6 college credits, which if you think about paying $1500 per credit, it was a lot of savings. Originally, I hadn’t gone straight to [program name], I went to a different school. It [the college credits] just counted towards extracurricular credit, which was fine because it counted as just a GPA booster. When I transferred to [program name] my junior year, I was really happy that it worked out to where the 6 credits counted towards my degree in Allied Health Science. It saves me having to pay for 6 credits, and take 2 extra classes. That actually allowed to me. . . To graduate on time. I’m really grateful for that.

Unlike many transfer students, who lose time when switching between institutions, the credit she earned while attending the pipeline program enabled her to keep up with her class and graduate on time. This resulted in savings of both time and money. In populations who are underrepresented in college settings, this type of savings can prove to be highly beneficial.

**Academic self-concept.** The participants spoke about the discoveries they experienced while enrolled in the pipeline program. Many of these moments centered around their academic abilities.

Some participants shared positive remarks about the program itself. One participant indicated the classes felt like classes she experienced while attending college. Eva explained the similarity and said, “it kind of gave us the early college feel where we were responsible for our own work and the exams. . . were really tough.” Amelia spoke about one of her friends who was accepted into nursing school. Amelia had a background in nursing because of her attendance in the pipeline program. She listened to her friend recount her experience in nursing school and said to herself, “oh yeah I’ve done that before. I already know what you’re doing.” She went on
and remarked “if I had gone to the nursing program I would’ve been really prepared when it came to clinicals and stuff.” Although Amelia did not choose to pursue a nursing degree, she was aware of the value of the education she had received and was favorably impressed with the quality of the program and the knowledge she had gained. Amelia felt very supported while attending the pipeline program, stated “I just really like the program in general,” and believed that she had made connections with people would be supportive in the future. She also discussed learning about the intricacies of healthcare and “a lot of random stuff about insurance, which ended up being helpful in the long-run.” She did not realize the importance of what she learned until after she concluded the program.

**Sensemaking.** As participants began to place meaning on their academic experiences, the third a priori construct of sensemaking developed. All the participants discussed how participating in the program helped them to explore various health professions and determine which one they wanted to pursue in college. One of the strengths of the programs that was emphasized by the participants was how education was linked to career goals. A special appreciation of the ability to obtain certification in certain disciplines, including phlebotomy, was positively addressed. Mandy spoke about her experience and said, “as we were doing phlebotomy, right now I’m actually going for medical assistant with phlebotomy.” Because she could learn about phlebotomy and obtained the skills to engage in receiving certification, she was able, when in college, to add that skill to her degree progression. Mandy also discussed how high school does not really show a student much about the future, but after she began the pipeline program, she determined that she could learn about information that would help her in her future health career. Eva felt it would be helpful if there were other areas of certification available to students in pipeline programs. She stated, “I think kids would be more interested in
pipeline programs] if they could become certified in what they are doing.” Ashley discussed that it was a good experience that more students should engage in. She said that being involved in a program like this could change “their whole course of what they decided [program choice] in college.”

**Self-efficacy.** The pipeline program was advantageous to the participants in several ways, but one important factor was self-efficacy—participating in the program made them feel they could achieve their desired outcomes of becoming health professionals, was self-efficacy. All the participants discussed self-efficacy as it pertained to their participation in the pipeline program, but a few comments stood out. Eva discussed how getting an overview of information on various concepts, and exposure to knowledge was very “eye-opening” and beneficial to her, as it helped her better prepare for classes, and allowed her to recognize she could be responsible for college-level work.

Samantha discussed how the pipeline programs assisted her in being less anxious and created a familiarity that made it easier for her at the university. She also discussed how the program’s coursework was a bit more difficult than high school, “but kind of that first door and step for college classes. I remember my first semester. I remember when I had my biology class and chemistry, I remembered stuff I had learned already.” Samantha saw the benefits of the pipeline coursework because it created the idea that she could be successful in her classes and in her future program.

The access to and participation in the pipeline programs appeared to be very important to the evolution of the participants’ lived experiences. Many benefits can be seen in their responses and have been discussed through Theme 1.
Theme 2: Learning was influenced by the students’ experiences with how the curriculum was taught (“Curriculum and quality teaching and learning”).

Participants discussed their experiences as they pertained to the curriculum and the teaching and learning they encountered during their involvement in the pipeline program. The various types of learning experienced during the pipeline program with regards to courses focusing on health and health care assisted the participants in developing and maintaining their interests in health professions. All the participants had data that was captured in this theme.

Overall, one of the areas of strength in the pipeline program, noted by three students, was the quality of teachers. The participants felt the teachers were there to provide support and were constantly willing to carefully explain concepts. Although they did not use many descriptive phrases, the faculty were described as “good” and “great.” Participants felt strongly about how the teachers took extra time to ensure that students were learning and had captured the needed information. Additionally, participants discussed how many of the concepts they learned in the pipeline program they still remembered and were beneficial to future learnings. Various comments were made about the terminology they learned in the coursework and how this assisted them in their health courses, especially the sciences. Other comments made by participants in pipeline programs included how the classes were enjoyable, the curriculum was sequential, and the program was more challenging than traditional high school courses.

The faculty in their programs were highly regarded by the students. The students were impressed by their dedication and willingness to spend time teaching and mentoring them. Mandy spoke about one of her teachers said, “He used to talk to us all the time and explain things to us, and just made us feel really comfortable, which made me want to stay even more.” Various students described teachers as, “really approachable (Will),” “very encouraging (Ashley),” and “[they] made us feel really comfortable, which made me want to stay even more
The relationship with the faculty was a cornerstone of the participants’ experiences with half of the participants making positive comments regarding the staff.

**Motivation.** Participants discussed how the teachers were motivating and pushed the students towards success. A priori construct three, motivation, emerged from the participants discussions. Samantha talked about how one of the teachers was “really open for us to ask questions and learn whatever we wanted.” She went on to discuss how helpful the teacher was and how “it would have probably been difficult. He was always pushing us towards it and encouraging [to be] thinking about college and what would we want to do. I think it really did open doors.” Julia discussed how she could really rely on her teacher, and how helpful he was to her. She went on to say that she could ask him for pretty much anything and “if it’s within his ability he would do it for me. It’s just really nice knowing that I have a professor that’s really helping me out.” Amelia talked about how her teacher was a huge impact on her and her life. She said that she still talks about this teacher. Other students went on to talk about how the teachers pushed them to make informed decisions and let them know that they could achieve their goals.

**Academic self-concept.** Participants spoke about how learning occurred and the amount of information they learned. The universal response helped clearly define and describe this a priori construct. They indicated that they enjoyed the learning process because it was interactive, hands-on, or project-based in its approach. One of the participants was very specific and indicated that classes began by receiving an overview of the concepts that would be taught. This was remarked upon because it enabled the participant to stay on track and understand how the details they were being taught connected to the concept.
Four of the participants spoke about the enjoyment with learning that was hands-on. Mandy indicated that she liked all her classes. One of the main reasons she enjoyed the coursework was, “the hands on that we were doing classes… We were actually practicing… We were practicing phlebotomy and stuff like that. I really liked it. I felt like we were actually doing something.” The act of learning by doing resonated with the student. So, taking the information she was learning, and practicing it in a safe setting, she felt as if she was truly learning. She went on to say, “the CPR and first aid that we got… Is actually really helpful… Because we need that.” In addition to the hands-on learning aspect of the curriculum being engaging, Mandy found some of the information she learned to be helpful as she continued in her college career. In order to do any practicums, she was required to have CPR and first aid certification. She received the required certifications while attending the pipeline program. She went on to speak about the value of the hands-on learning experiences and spoke in detail about her current degree. She was pursuing a degree in medical assisting and adding on phlebotomy because she received phlebotomy certification while attending her pipeline program. Because of this, she could graduate with a wider range of experience and get an additional degree which would make her more employable.

Amelia also found the hands-on nature of the pipeline program to be very helpful. She spoke about one of her classes and said, “we did some good experiments in class to… [It] got me working in figuring out how to do stuff, which was super helpful when you get to college you really need to know how to do that especially if you want to become a scientist.” Will said hands-on learning was extremely helpful to him. He reported he was a hands-on learner, thus being able to manipulate and use the concepts being taught in the classroom in a laboratory setting, helped him retain the material being taught. Julia said, “I thought everything hands-on
that we did really interested me.” One of the reasons the hands-on aspect of the program was valuable to students was because it allowed them to practice the skills they learned, which in turn led to higher rates of retention and understanding.

Another type of learning mentioned in relation to the program was group-based activities. Mandy found that working in groups was highly efficient because having alternate viewpoints should increase student understanding. She said, “it helped because you can see someone else, how they think, instead of just how you are thinking about it.” For her, having access to alternate points of view ensured she understood the material.

Will commented that many of the activities in the classroom were group-based and often had an active component. He further indicated that students were required to take responsibility for setting up laboratory experience. This exposure to hands-on science help students understand new concepts. Being involved in group activities rather than traditional note taking was also seen as positive.

Ashley spoke about the project-based learning. She indicated that these were “big experiences” and often involved understanding of basic information that was necessary to learn to be able to understand higher order information. She said the experience was positive because it enabled her to gain confidence and believe, “I can do this.” Amelia believed that the projects were an essential part of her learning process. She spoke about them and said:

And then we worked in the projects, and the vocabulary. And I would read books and I’m like, ‘oh this is really cool.’ So, I started leaning towards it more. The more I got into the program the more I started leaning towards it. Just like all of the activities were really good to influence… I don’t know they were just very influential.

Also, Ashley talked about “just knowing how to study medical terms, knowing how to work with different equipment, health topics about genetics and stuff that I might not talk about in high
school was super helpful. And that learning these areas helped “gaining confidence to be able to be like, ‘oh, I can do this’.”

Amelia said participation in the program enabled her to see other areas in the health care field that might be interesting for her. She commented, “I enjoyed it even if it was just drawing blood and stuff even though I was more geared to research, I still thought it was fun and I really liked the classmates.” For her, the practical experience was enjoyable and she enjoyed the experience of being in class with students with similar interests. Eva had a similar reaction to the pipeline program and said, “the program was really fun. I really enjoyed it, so I really liked it.” She tied in the success of the program to the fact she found the learning opportunity enjoyable. By liking the program, she increased her success. She went on to speak of specific parts of the curriculum which she enjoyed. She said, “I enjoyed them all and the practicals that we did… They were really fun. We were able to do them on each other.”

Amelia found the design of the curriculum extremely helpful. She spoke about her medical terminology class she took. Amelia said, “there’s something that went over for a while were like a couple of times. But later in like anatomy, I already knew a bunch of stuff…. It was very helpful….Later I just needed. It was just good terminology to have…I don’t know it’s really cool.” As Amelia progressed through the curriculum, she found the introductory courses that she had taken, particularly medical terminology, to be helpful. The course gave her the language she needed to understand the offerings in higher level courses. She was excited to realize she had a deeper level of understanding of the material because she had the language necessary to comprehend. In addition, Amelia spoke about different projects that were simple to complex in nature and indicated she had many positive experiences from them. Through the projects she could see connections between the material she learned and establish relationships
with other students. Overall, because of the project-based learning, her dedication and desire to
be in the health care field increased.

Mandy found the class work in the pipeline programs to be enjoyable. She spoke about
her high school classes and said, “high school classes don’t really show you much. I mean, they
show the basics.” She continued and elaborated stating that the typical high school classes did
not really help in the search for future careers. Mandy spoke about the pipeline program, “this
was like a step forward.” For her being able to explore the different options in the health care
field was a step towards identifying a future career.

The participants in the study found that the level of learning in the program was very
high. Overall, they indicated that they were pleased with the amount of information they were
exposed to during their attendance. Amelia said, “I think that what we did there was very
impactful because. . . I know all the projects that we worked on. . . made see how much I really
like medicine.” Mandy agreed with Amelia and said, “I really like the program. It was really
good. I feel like you actually get a lot out of it. [Even] if you don’t know this at the moment, that
you actually do get a lot out of it. And you learn.” She was surprised and amount of information
she learned and retained. She said, “we don’t notice until afterwards. But once you’re actually
putting it into practice, you actually notice that you retain so much more than you actually
thought.”

One of the specific areas the participants focused on was medical terminology. Five of
the participants spoke about the value of learning vocabulary associated with health care. They
felt that this knowledge would help them be more successful in classes. Samantha said:

I know we had to do medical vocabulary in it. I thought that was very beneficial
because it wasn't a requirement for [the university] to take a class like that. Given
that I had that background already, I feel like it was really ... It was an advantage
for me because other people hadn't taken the medical vocabulary class.
She (Samantha) found her exposure to medical terminology gave her a step up on other students. Although the course was not required by her university, she found that it helped her better understand what she was studying. Ashley found that, “at my school they gave me six [credits] because of medical terminology. One of the students even noticed that she used the information in everyday life. She stated, “I can say hey I can remember that or when there is something on TV medically related, oh yeah I know what that is.” Overall, the students believed that it was helpful to have learned the medical vocabulary and were pleased that they had the opportunity.

All the participants in the study spoke about the experience of being a student in a pipeline program. Most of the participants in the study felt the program was manageable. As students, they felt that school was “neither easy or difficult (Eva),” “not as difficult as I thought (Amelia),” and “I think it’s pretty easy (Mandy).” Amelia was one of two students who spoke about being a first-generation college student. She compared herself to others and said, “sometimes feel like I am not as great of a student as other people who aren't first generation college students.” Samantha spoke about her classes at the pipeline program and said, “I think it [classes] really helped me, since we had an overview. Like a little bit harder than high school, but kind of that first door and step for college classes.” She felt those classes prepared her for the rigors of college and were a good bridge between the expectations of high school and the university.

Sensemaking. Participants reported the pipeline program influenced their decision-making process in regards to career. They found attending the program assisted them in making career choices, selecting colleges, and learning about the different career options in the health care field. Eva reflected on her experience in the program:
It kind of helped direct me into what I wanted to do. Like I know there is so much you can do in medical health professions and I think just taking classes... that kind of helped specify what I wanted to do. It’s so broad, it’s a huge profession, it narrowed my choice. . .it narrowed what I wanted to be.

Through attendance at the program, she was exposed to many career options in the health care field which aided her in arriving at a decision regarding her ultimate career. Amelia also spoke about how the program helped her choose a career and stated:

The thing that helped me the most were the tours, and looking at the different jobs that people had, and actually applying what we had done in classrooms. ... So, we got to see people actually doing this, not just like on paper. And that was helpful, because they were able to tell us about their jobs. And how ... Sometimes on paper it might seem boring, but they do a lot more things that aren't in the job description.

By seeing the careers in the real world setting she could visualize the position requirements and picture herself doing that work. She learned that there was more to a job than what appeared on paper and came to an understanding of how what she learned in the classroom was applied in the real world. She went on to speak about one of the tours and said, “And we did the stuff there, and I liked that. And so, I'm like, ‘Oh yeah, maybe I kind of like health care’. ” The hands-on experience made an impression. Another participant in the study, Mandy spoke about learning about health care careers and said, “At first maybe I wasn't really sure what phlebotomy was until I started the program. And a lot of people actually don't know what it is. They're like, 'What are you doing?' I'm like, basically, I know how to take out blood really good, okay?’” Through her attendance in the program she learned about different careers and skills, and she received training in some of those skills.

Ashley found many of the activities she could attend as part of the program very enlightening. She spoke about attending a conference and said, “he [the teacher] made us go to some conferences that were really helpful. It got you to be with researchers and see how
researchers talk. Something like that, I would have never gained in high school.’ She believed this experience was unique and available to her because of the pipeline program. Not only were these activities offered, the faculty of the program were adamant about students taking advantage of all opportunities. Will said, ‘professors... teachers, really wanted to get us involved with all the departments to make sure we made an informed choice.’ Julia described how these opportunities influenced her and said, ‘I had also job shadowed a speech pathologist and I had other people from my church talking to me about it. That kind of gave me the final push towards going into health care.’

The participants’ involvement in the pipeline program was essential to their interest and health profession program choices. Without this connection and direction, the participants might not have developed and maintained their interests in the health professions programming.

**Self-efficacy.** Through their involvement in the program, participants realized they could achieve their overall goals. Confidence seemed to be a major component of this self-efficacy.

Amelia spoke about the classes in the pipeline program saying, ‘I haven’t used it in college as much... I think it gave me the confidence I could do it.’ Although she chose not to pursue nursing as her area focus in the pipeline program, she believed the active learning of the material increased her self-confidence. This helped her increase her self-efficacy.

A couple of the students spoke about stress, with Mandy stating, ‘It can get stressful sometimes, you're like, 'I'm never going to get it.' But professors [help]... You're bound to get there. It takes a little while sometimes.’ Although she spoke about stress, Mandy was also confident that she could receive support from her teachers when necessary, which helped mitigate those feelings. She was confident in her ability to understand the material given time.
One student, Mandy reported issues with time management. She offered no details regarding this statement.

Participants discussed the preparedness they experienced because of the exposure to college curriculum through the pipeline program. This allowed participants to become confident in their ability to withstand the academic rigors of higher education, which further heightened and maintain the participants’ interests in health professions.

**Theme 3: Experiences that occurred throughout the pipeline, influenced the development of students socially and emotionally (“Social and emotional development”).**

While the participants’ involvement in the pipeline programs enhanced them academically, they also had experiences that spoke to their social and emotional development. Theme 3 explores this development by the participants. Social and emotional development can be key components to overall student success, and thus is an important theme to discuss as part of this study. As in previous themes, four a priori constructs were utilized to look at the emergent thematic data.

**Motivation.** Motivation emerged as an important piece of the participants development and was experienced by participants in different ways and for various reasons. Some of the motivating factors pertained to why they chose to pursue health professions careers.

Four of the participants indicated they wished to join the health care profession to help others. Amelia expressed this idea eloquently when she said, “I hope that by being part of a health profession myself, I could help my family, friends, and future generations, so they too could help others.” She saw her career choice as a long-term decision, that would affect those around her and future generations.

For two participants, health care was a field they had always planned to enter. Mandy said, “Ever since I was little I just loved it. I actually used to tell people that I [wanted to]
become a surgeon.” She believed choosing the pipeline program would help her move closer to her dream and stated, “I was like, well, I could get my foot in the door and start learning from now.” Will echoed her remarks and said, “I just always wanted to be in health care.” For these participants working in health care was a lifelong dream. They saw the pipeline program as a pathway to a health care career.

Having a parent who was ill, served as motivation for a couple of participants. They reported interest in the field after their mothers were diagnosed with breast cancer. Eva said her primary motivation was, “because my mom had breast cancer and she survived it.” She was inspired by the health care providers she interacted with while her mother was ill. She said, “I have been around a lot of health professionals when my mother got sick. . . my interest first began with my mom being diagnosed with Breast Cancer.” Exposure to health care providers was her inspiration for joining the pipeline program and pursuing a health care career.

Individual participants had myriad different reasons for choosing to join the pipeline program and pursue a health care career. Reasons for enrolling included a desire to pursue a health care research career, loving science, and the ability to be different from other students. Eva spoke about choosing to pursue a health care career and said, “I wanted to make it out there.” She believed entering health care would enable her to be successful. She further stated, “having the American Dream so to speak was a big factor because people think they are going to make it out there and make a lot of money and they think they are going to do a profession such as health.” Eva equated a health care career with financial security and success. Choosing the pipeline program was her first step to that envisioned future. Eva believed, “minorities of this generation are struggling to succeed” and she did not want that struggle. Samantha was the only participant who was interested in a health care career because of her own experiences with the
field. She said, “I've always been attracted to it. When I was younger I had to get a few surgeries done, so I was around hospitals for quite a bit.” She initially wished to become a doctor, but after job shadowing chose nursing because she wanted a closer relationship with patients.

Families played a significant role in some participant’s decision to enter the health professions’ program. Only two of the participants reported having a family member in a health care field, the remainder indicated there were no adults in their families with health care experience. Mandy said, “My sister is a dental assistant does that count? My sister is studying for PA and I'm studying for MA.” Her sister worked in dentistry and was pursing education to become a physician’s assistant. Samantha indicated that she had family members in the health care field but was not close to any to them. She did not feel they influenced her decision to pursue a medical career.

Three participants indicated their parents had a significant influence on their choice to enter the program. Ashley reported that her parents learned about the program and encouraged her to attend. Julia said, “my family has always pushed me towards going in to health care, mostly because of job security. Even though, no one really has been in health care. They just wanted better for me and knew that a job in health care would be probably the best choice.” The participant’s families’ perceptions of health care professions were positive. They believed a health care career would provide financial security and enable their children to do well in life. Eva spoke about her parents and stated, “My parents wanted me to make a lot of money and I could make a lot of money in that profession.” For these participants, financial security was a value and primary motivating force. This view was shared by their parents.
**Academic self-concept.** As participants experienced growth through the program, they realized through their experienced learning, they gained confidence in their abilities to succeed academically. In this a priori construct, academic self-concept is shown through the participants experiences. Participants discussed that through the social and emotional development, they discovered their academic abilities.

Amelia spoke about working with college students while attending the program and stated:

Those students had come into help us with the project. And they were like, ‘Well, we really don't need to help you because you guys kind of have everything in the bag.’ But it was really cool to see that these students who were in pharmacy school saw that everything that we had in line was the way it should have been. Like the science was right, and the math and everything, so it was cool.

Receiving the positive reinforcement increased her confidence in herself and in her own knowledge. Having someone, who she thought of as more advanced confirm that she was correct in her science and math was important to her.

Participants discussed how working with other students on projects and presentations are big experiences, and it led them to discover that academically, they can complete the work on large projects. Additionally, they discussed how when they encountered students in health professions programs who talked about their course work, the participants had done some of the work before and knew what they were doing. This made them feel prepared. Participants also discussed working on a group project that scientists in India were using to impact polio, and how a video game they designed was being used to show people the importance of cleanliness, and how rapidly disease can spread. These group student interactions positively impacted the participants and showed them how these types of collaborations can lead to successful future outcomes.
**Sensemaking.** Participants began to become aware and give meaning to the development they experienced both socially and emotionally. The a priori construct of sensemaking emerged as participants relayed their experiences during programming. Ashley spoke about always enjoying her sciences classes, coupled with her mother being diagnosed with breast cancer, created a passion for “wanting to know more about research.” Through her experience gained by visiting a research facility during her pipeline experience, she discovered she wants to go into cancer research. Also, participants discussed traveling in a group to visit other schools and other programs, and how having made those connections with people really helped them out. Some participants discussed remaining in contact with students from the program and finding out that some of them became certified in areas such as phlebotomy, and how beneficial those classes were for those students. Additionally, participants discussed how group work could be tough at times because of different personalities, it helped because “you can see someone else, how they think, instead of it just how you’re thinking about it” (Mandy). This was beneficial in helping participants work with differing personas, and to see ideas from another person’s perspective.

**Self-efficacy.** Participants discussed their beliefs on whether they could achieve what they wanted to achieve, their desired outcomes, and how they felt about these possibilities. These responses led to the a priori construct of self-efficacy. Some participants discussed their feelings of being first generation college students, and how this made them feel uncertain or unsure of their abilities. Also, some of the participants thought it would be a harder to get into college then it was because no one else in their families had done it previously. Samantha said that “just being at the university helped me. I wasn’t scared or nervous my first semester just because I had already been there. It made it a little bit easier because I felt familiar with it.”
Theme 4: The achievement of social capital occurred through the exchanges experienced during the pipeline program (“Developing social capital”).

Participants discussed various characteristics of their experiences that can best be described as developing social capital. Social capital are the resources that become available to an individual based on the professional or personal relationships they possess (Parks-Yancy, 2012). Some examples of resources are the availability of information, opportunities based on one’s network, or power and influence. Although participants did not use the term social capital, their descriptions very much qualified as such.

**Motivation.** As student began realizing they had or were developing social capital, they became motivated to use it. The emergence of the a priori construct motivation developed based on participants’ responses. Participants discussed the information they learned through the program assisted them in their colleges classes because they had prior knowledge of the information being discussed. Additionally, participants shared that the relationships they formed with the instructors, faculty, and advisors was beneficial and created opportunities for them. Through her (Ashley) attendance at the conference she attended while in the program, she made a connection. Ashley took advantage of that relationship and became motivated to try to cease an opportunity, which she did and was able to access an internship. This was all caused by her exposure to others in the health care field. She went on to speak about the importance of this connection and said, “I would say the conversations and interacting and stuff I gained for networking was a huge thing for me personally.” She understood and took advantage of the opportunities presented to her because of her attendance at the program.

**Academic self-concept.** Through the development of social capital, by way of faculty interactions, participants felt they could be academically successful, and it created confidence for them. As participants discussed these interactions, the a priori construct of academic self-
concept emerged. Participants discussed how supportive, helpful, and approachable the instructors, faculty, and the advisors were to them. Through these exchanges, participants felt like they could achieve their goals. The time the instructors spent with the students helping them understand and be successful in their courses was mentioned multiple times by the participants. Additionally, Samantha also discussed the helpfulness of the job shadowing opportunities on her overall experience. In addition, she discussed the information she gained which helped her transition into college. This made her experience easier because she already had exposure to college classes and information about the university.

**Sensemaking.** As participants discussed the various means of social capital, they began to understand and create meaning from these experiences. These discussions created the a priori construct of sensemaking in regards to social capital. Participants discussed the true value that these exchanges had on them through their involvement in the pipeline program. Ashley was able to see the importance of networking because of her attendance in the pipeline program. She spoke about how networking enabled her to access important opportunities. Ashley said:

> I had seen him at several other conferences that I had [attended] I would see him back and forth and he gave me his business card and actually as of last year ... I had tried getting my foot in the door there, but it is just too competitive and stuff ... but I was like, oh I should just message him because it's not during the summer, but maybe I could do something during the semester because I have some extra time. He actually connected me with a bunch of people and I was able to work as a student-intern my last semester. I don't think ... If it wasn't for that connection that started from the beginning I don't think that I would ever have had that opportunity. I think that was something that was really powerful.

Julia used connections she made in her program as well. With the help of a faculty member, she had an opportunity to sit in on a class in the speech pathology department. She was interested in that career but was unsure. She said, “[her instructor] had some contact with one of their professors, and she allowed me to sit in to one of her classes, just to see if I'd be interested.
That kind of helped out too.” Because of the networking and connections, she accessed a class that helped her decide about her future areas of study.

Julia also talked about the relationship she built with the pipeline instructor that allowed her to use him to complete recommendations for her and help her to “establish relationships with professors for when I applied to grad school.”

Samantha found the connections she made through attendance at the pipeline program invaluable. She spoke about her experiences and said:

I remember through the program that we would have where we would talk to different professions. We would meet the [school name] advisors, and that's how I met one of the nursing advisors at [school name]. She really helped me to get into the nursing program and all that. I feel like it was really beneficial overall.

Not only was she able to make connections on the campus. Samantha was able to meet the nursing advisor who helped her apply and be accepted to the nursing program. This connection enabled her to reach a long-held goal. “Having that connection, having made that connection through [instructor’s name] was one of the advisors that helped me get into the nursing program.”

Both Will and Amelia discussed the opportunities to job shadow and learn information about different health care professions. Will said, that “he was exposed to job shadowing opportunities and information about the various health care jobs.” This information was impactful on him because through these opportunities he discovered what health profession he wanted to go into.

**Self-efficacy.** Participants discussed how the exposure to health professionals gave them the information needed to make decisions about health professions programs they chose to enter. This development of social capital created a belief and confidence that they could move forward
in a health professions program because they had insight into those careers that went beyond the information they read in textbooks.

**Race and Ethnicity Note**

An area I would like to note is that even though this was a study about URM students in health professions programs and the participants knew this in advanced, there was very little mention of race and ethnicity in their responses. Only four of the students made any kind of mention of race and ethnicity in their responses. Will discussed that he felt a divide in the pipeline program between the Caucasian students and minority students. He said that the Caucasian students were upper class and the minority students had very little [financially], yet the minority students would share their food with everyone in the classroom, and the Caucasian students would only share amongst themselves. Julia talked about the pipeline programs “are really important programs, especially…I didn’t really, exactly realize they were for minority health professions. I think it should definitely be something more high school students know about and something that they really understand….”

Eva discussed a couple of aspects regarding minorities. She first talked about “minorities of this generation are struggling to succeed.” She went on to say,

I think it’s really important to have those kinds of programs especially for minority children because we/they need to feel appreciated. They need to feel like they can make it out there in this very tough economy. It’s really tough for underrepresented minorities.

She concluded her mention of minorities as she discussed that professors in her courses mispronounce her name and that as a “minority, I/we say it differently.”

Lastly, Samantha discussed race and ethnicity the most out of all the participants. She first discussed the differences in diversity from high school to college. She said,
I went to a high school that was pretty diverse, but when I went to college it was almost like a culture shock because I would be like 1 of ... I don't know. Depending on the class, maybe 1 out of 8 students that was Hispanic. It was really a culture shock. I was like ... My cohort was like I think we ended up being 74 or something maybe. There was no African Americans. There was 2, well 1 Mexican besides me, and then another girl that was from Venezuela, and that was it. Everybody else was White. It was pretty interesting to see the lacking for more minority students to be in college overall.

Samantha also talked about the diversity in her pipeline program cohort. She says, “I think we were all minority students. I want to say at least half of us actually went on and finished a college education.” I would like to conclude by saying, the lack of race and ethnicity responses from the participants in a study that focuses on that aspect was an unexpected development in the data analysis.

Research Questions and Participant Responses

The results of this chapter were used to answer the research questions guiding this inquiry. The application of themes to research question are summarized in this section.

1) **How did the URM students’ interest in the health professions begin?**

Through *Theme 1: access and participation*, participants indicated a variety of ways their interest in the health care profession began. For some having a health care career was a lifelong goal, while others became interested when in high school. The more they learned about health care careers the more their interest grew. Enrollment in the pipeline program taught them about the myriad of options available in health care and helped them to identify which branch of health care held their interest.

2) **How do URM students develop and maintain their interest in the health profession?**

Through both *Themes 1: access and participation*, and *Theme 2: curriculum and quality teaching and learning*, it was discovered that participants did not have a single path to a selection of a health care career. For some, exposure from family in health care guided their interest.
Some participants reported having a family member with a significant illness inspired them to consider a health care career. For others, the ability to help people was a reason to become involved in a health care career. Some participants stated they had always known they wished to enter the health care field. There were no single overriding reason participants chose health care, like the participants, the reasons were varied and based on their personal experiences.

In Theme 4: social capital, the participants found their teachers and mentors to be a large factor in their continued interest. The support and education they received was described as a key factor in their continued interest. In addition, the participants indicated that the pipeline program opportunities which included hands on learning opportunities, certifications, internships, networking, and field trips to health care organizations kept them inspired and engaged.

3) **What led URM students to actually decide to enroll in the health professions program? Along the way, what were the inhibitors and what were contributors to enrolling?**

In Theme 1: access and participation, and Theme 2: curriculum and quality teaching and learning, the participants spoke in detail about how the pipeline program was a major factor into their decision to enroll in a health professions’ program. All seven students indicated some component of the program that contributed to their decision to enroll in their program.

In addition to the pipeline program being a factor, students discussed five other factors that contributed to the participants’ decisions to choose a program in the health professions. Those factors include: wanting to help others, always wanted to go into health care, had an ill parent or were ill themselves as a child, the ability to make money and have financial stability,
and their parents. A sixth factor, having a family member in health care, was mentioned, but it was felt that it was not a contributing factor in the decision to choose health professions.

Additionally, in Theme 4: social capital, students discussed many contributors to enrolling in health professions programs. At the heart of their responses was the encouragement and support of the program instructors. This helped participants be motivated and develop confidence in themselves for success. Additionally, the relationships that were created as part of the program with faculty, advisors, and health professionals were key to some of the participants entering the program, or even having the ability to enter the program. Only two inhibitors to choosing a health professions’ program were mentioned, which were the competitiveness of getting into a program and that being discouraging and being a first-generation student and not feeling as good as the other students, which was discussed in Theme 2: curriculum and quality teaching and learning, and Theme 3: social and emotional development. The lack of confidence in their abilities caused some of the participants to feel like they would struggle in a health professions program.

Chapter Summary

In this chapter, I reported the results of this research study. Included in this section was a description of the participants and setting, the data collection process, the data analysis, results, and summary of findings. Various themes emerged through the data analysis process, which reflects the views of the URM student participants. Chapter 5 contains a discussion of the results, recommendations for future research, implications for practice, and limitation of this study.

The final chapter of this study provides an overview of the findings, including the importance of those findings. Additionally, a relationship of the results are made to the existing
literature, and implications for future research is provided. Lastly, a discussion on the limitations in the study and an overall summary complete this chapter.
CHAPTER V
DISCUSSION

In previous chapters one and two, a descriptive account of the current literature on health care and the deficits associated with the lack of underrepresented minority health care providers, barriers to the underrepresentation both in health care and in health professions programs, and programming that has been moderately successful in addressing these deficits were presented. Furthermore, an inquiry was conducted that investigated URM students and their lived experiences of choosing and being enrolled in health professions programs. Additionally, this study asked probing questions relating to the contributing factors that influenced health professions program enrollment. Moreover, chapter three described the major components to the transcendental phenomenological study used to explore the lived experiences of the seven URM student participants. Lastly, chapter four describes a detailed look at the results of the study.

Within chapter four, a detailed analytical analysis of the participants’ data was conducted. As the analysis materialized from the interviews conducted, four themes and four a priori constructs emerged. The lived experiences described by the participants created emergent themes:

Theme 1: Participating in the pipeline program was impactful if students could access the program;

Theme 2: Learning was influenced by the students’ experiences with how the curriculum was taught;

Theme 3: Experiences that occurred throughout the pipeline, influenced the development of students socially and emotionally; and
Theme 4: The achievement of social capital occurred through the exchanges experienced during the pipeline program.

These themes can be tied back to the overarching question guiding this study, which was how do URM students who participated in a pipeline program reflect on their lived experiences and identify what experiences they believe accounted for their decision to enroll in a higher education health program.

The subsequent information provides a further examination of the findings and provides insights, a comparison to previous literature, as well as both limitations of the study and areas for future research.

**Summary of Insights and Relationship of Results to Existing Studies**

As part of my doctoral program, I began working on my dissertation literature collection in the Fall of 2009 as was recommended by the program. I continued to collect literature throughout writing my dissertation. I would like to point out that many of my references are dated, and I have made efforts to update portions of the literature with more recent information but it was not exhaustive. The insights I have provided were done utilizing older literature and there may be newer studies available to substantiate or negate my statements.

Higher education health professions programs have historically struggled and continue to struggle with the inability to have a strong representation of underrepresented minorities in health professions programs. This lack of representation further complicates the underrepresentation of minorities in various health professions, and aids in the continuation of this critical issue (Sullivan, 2005). Without the ability to notably increase the URM representation across the health professions fields, health care professionals remain at statistically low numbers (National Academies of Sciences, 2004; Testoff & Testoff, 1983).
Research shows the many benefits to having minority health professionals from better patient outcomes to improved access within diverse communities, but the critical piece of the puzzle is having URM students in the programs to facilitate URMs growth in the professions (Sullivan, 2005).

The utilization of pipeline programs to increase URM representation in health professions programs has a long-standing history of utility to provide growth in health professions programs, and by most accounts is the strongest available resource to assist in these efforts (Augustine, 2010; Sullivan, 2005). The participants discussed the pipeline program as being essential to their decision to enroll in a health professions program within all four themes but was discussed more heavily in Theme 1: access and participation. Understanding the complexities surrounding student interest, enrollment, and success in health professions programs is essential to creating stronger programming that can foster success for URM health professions students. This has the potential to yield increased numbers in these programs, which is the key to increasing the overall numbers of URMs in health professions occupations. Within Theme 1: access and participation, and Theme 2: curriculum and quality teaching and learning, responses supported the significance of pipeline programming on the interest of the participants in regards to health professions careers, in addition to other factors that increased their interests.

**Literature and Insights**

Recruitment and retention literature is inundated with factors associated with reasons for both success and lack of success for URM students in health professions programs, which includes components such as early exposure to health professions and pipeline programming.

**Pipeline programming.** Pipeline programs can be advantageous to students who participate in them. They assist in providing students with resources, and with some programs to
counterbalance any educational insufficiencies (Augustine, 2010; Sullivan, 2004). Knowing that these programs were impactful on students was already present in the literature, but I did not anticipate how impactful they truly were on students. In Theme 1: access and participation, as well as Theme 2: curriculum and quality teaching and learning, participants discussed the effectiveness of the pipeline program and how influential it was to participants in their decisions to enroll in a health professions programs. The participation and the curriculum and learning of the pipeline program was one of the stronger indicators to enrollment for a myriad of reasons discussed in chapter 4. In addition, Theme 4: developing social capital, brought forth how the pipeline programs provided resources in areas like financial, academic, and advising support, as well as mentoring and other psychosocial areas. An underlying sentiment through all four themes of this study pertained to the participation in the pipeline program and what this truly meant for students through motivation, academic self-concept, sensemaking, and self-efficacy, a priori constructs which were taken from the literature.

A major component of the pipeline program was the ability to take college courses for credit, which emerged in Theme 1: access and participation, and in the a priori construct of motivation. Participants discussed the major financial value this had for them, as this decreased the amount of credits they needed to take in college and the amount of tuition dollars they needed to pay. This was a motivating factor for participants in the pipeline program. For many URM students, having the money to pay for college and the financial implication of debt from tuition costs (Baum & Payea, 2005) can be major barriers and they can be a hindrance on their success. This can be very stressful for students, which could create distractions, or even cause them to leave school altogether. Along with the financial benefits to taking college courses, an additional benefit is that it allows students to get a good idea of the college courses experience,
which emerged in Theme 2: curriculum and quality teaching and learning. One participant said, it “allowed the student to get their feet wet with college courses.” This helps with transitioning to higher level academic rigor and helps prepare them for what college coursework entails. The idea of taking college courses can cause nervousness for students, especially first-generation students like some of the participants, which was discussed in Theme 3: social and emotional development.

Often, URM students lack the social capital that majority students may possess (Augustine 2010; Bourdieu, & Wacquant, 2002). The pipeline program created social capital, which is discussed in Theme 4: developing social capital, for the participants by way of networking, mentoring, and advising opportunities. Participants spoke of attending conferences, having health professions students and faculty as mentors, and their interactions with professional advisors from health professions programs. This created additional opportunities for students to utilize and capitalize on these experiences. It produced internships, research opportunities, assistance getting into programs, and the ability to sit in on health professions courses in their area of interest. Without the capital the pipeline program provided, many additional opportunities for success would not have been available to them. Furthermore, an added benefit of self-confidence and self-efficacy emerged from these experiences as well. The support and encouragement the participants were offered created a newfound self confidence in themselves and formed a mindset that success could be achieved.

Lastly, participants discussed the interactions and exposures they had with various health professionals and fields. This was discussed in Theme 1: access and participation, Theme 2: curriculum and quality teaching and learning, and Theme 4: developing social capital. Many were unaware of the various health professions available. The pipeline program allowed these
students to visit health professionals in their working environments and see what they really do in their roles. It also provided them the opportunity to ask questions to the health professionals beyond what they may have read about in books. A major barrier for students is the lack of knowledge about medicine (Loftin, 2012; Rao & Flores, 2007). Gaining this understanding was one of the aspects that participants discussed being important to their decision about what health profession they wanted to go into and whether to enroll in those programs.

One important item to note about the benefits of pipeline programs was the relationship the participants built with the instructors in the pipeline programs, which was discussed in both Theme 2: curriculum and quality teaching and learning, and Theme 4: developing social capital. This was the cornerstone of the experience for participants. The instructors were patient and willing to go the extra mile for students. Their encouragement and support were key in helping students become more confident and successful. Every participant mentioned the positive reinforcement provided by the instructors and how this aided in their achievement. Additionally, the instructors provided motivation that kept the participants moving forward towards the right path and also provoked them to utilize the opportunities they were being presented through their experience. One important aspect of URM success is having supportive individuals in place (Loftin et al, 2012) especially at their institutions. Many URM student studies discuss that one instructor who believed in them and helped them to navigate through their academic journey (Loftin et al, 2012; Augustine, 2010). These instructors appear to be winning in that respect.

**Early exposure.** For URM students interested in health professions careers, early exposure to health professions information is a key element to them entering a health professions program in college. Typically, these early encounters occur when a child is exposed to a health professional in their daily interactions. If URM students are encouraged to pursue a health
professions career by a health professional, they are more likely to be interested in a health career (Baldwin & Agho, 2002; Petersdorf, Turner, Nickens, & Ready, 1990). While this appeared to be somewhat important to the participants in this study, it did not overall seem to be a mitigating factor. Mentions of early exposure were sprinkled throughout all four themes. Participants discussed a multitude of reasons for why they chose a health professions program, and some of these conversations pertained to early exposure. These introductions occurred because of family members or the participants themselves having illnesses that created opportunities for them to be engaged with health professionals.

Another approach students can receive is early exposure to health occupations via a family member who is a health professional. This exposure is well documented in the literature (Baldwin & Agho, 2002; Petersdorf, Turner, Nickens, & Ready, 1990), however, did not appear to be a major factor for choosing a health profession program based on participant responses. Although not highlighted by participants, they were still exposed to health careers through these channels. Subconsciously, it may have impacted participants more than they realized and be part of their underlying reasons for choosing a health professions program. Regardless of the means of exposure, this still was a significant aspect for choosing these types of roles.

Pipeline programs and early exposures are well documented reasons URM students become interested in and choose to pursue health professions careers. Participant responses and study themes provide supplementary support to these already established rationales.

URM participants focus. In chapter 4, I mentioned the limited participant data focusing on race and ethnicity even though the study was one that focuses on race and ethnicity. I found this somewhat puzzling and am to a certain extent perplexed by its meaning. It appears the pipeline program did not focus specifically on race and ethnicity, so I wonder if that caused the
participants to minimize this element. Conversely, an additional thought could be that the participants may be so use to being amongst the majority that it is no longer a strong factor for them. Or, it could be something altogether different and may warrant additionally research.

**Conceptual Framework**

The original conceptual framework was my ideas about the presumed relationships of the phenomena I was studying based on the various elements discussed in the existing literature as having an influence on URM students’ major choice, and factors affecting their program/college success. Upon review of the data and in reflecting back on the conceptual framework (see Figure 1), some additional thoughts have come to mind pertaining to the framework.

**Early exposure.** In the abovementioned section, I discussed the prevalence of early exposure as mentioned in the literature (Baldwin & Agho, 2002; Petersdorf, Turner, Nickens, & Ready, 1990), and as determined through participants’ responses. My findings further support what has already been written in the literature, with the only exception being participants did not report having been influenced by family members in health professional roles, which is documented in the literature. Participants discussed the fact of being unfamiliar with many health professions roles, and that exposure to them during the pipeline program was instrumental in their reasons of choosing a health professions program, which was discussed in Themes 1, 2, and 4. This is an area that should be focused on heavily in pipeline programs and in career planning in high schools. Participants discussed the lack of this information being provided at their various high schools in the Midwest.

**Family background.** Previous literature discusses the importance of parents’ educational backgrounds as being of significance to URM student success (Ma, 2009), and while I do see it being of value for many students because the information the parents possess can help
the student better navigate higher education, it was not indicated as being of significance from participants in this study. Where family influence did come into play was that participants indicated that parents strongly encouraged, even pushed, participants into choosing a health professions program and career, which contrasts the literature that states parents are not influencing students’ major choices (Baldwin & Agho, 2002). The main reasons parents mentioned for choosing a health profession were job and financial stability. This was discussed most frequently in Theme 3: social and emotional development. Many of the participants appear to come from lower socioeconomic status as revealed through their responses and parents wanted the participants to make money, which the parents felt they could do in a health care field. Parents socioeconomic status does appear to have an influence on student major choice as discussed by research done by Ma (2009). Participants made strong indication that making money or financial stability was very important in their decision to enter into the health professions. This rationale is understandable as one does not want to enter into a career in which strong financial stability is not indicated. This discussion of the encouragement parents had on career choice in regards to focus being on making money is not discussed as frequently in the literature surrounding students choosing health professions fields, but appeared to be very influential for the participants in this study.

**Educational expectations.** Participants discussed the educational components and interactions with peers and teachers frequently throughout their responses, in Themes 1: access and participation, and in Theme 2: curriculum and quality teaching and learning. The experiences they received with the exposure to college courses in their pre-college courses, better prepared them for the difficulties college curriculums possess. Additionally, the collaborations they had with students in their courses and students in health professions programs, pre-college,
was also noted in the participants’ responses. They were encouraged by being around ‘like-minded students’ through these interactions. Moreover, the exchanges participants had with pipeline program instructors was discussed earlier in this section. Utilizing educational experiences as preparation to college appears to be an important factor. This was not indicated as being important within the health profession programs based on participants’ responses. One area in the health professions programs that I would classify as a part of the educational experience and was noted by participants was the lack of diversity within those programs. While this is a reality at any PWI, it can still be a surprise to URM students who may be used to seeing more of a diverse representation in their high schools or social circles.

**Tinto/Guiffrida Student Departure Model.** While the student departure model may be of importance in the overall persistence of URM students in college, it did not appear to be a strong factor in this study because participants focused heavily on pre-college experiences. Guiffrida (2005) discussed student motivational orientation as having an impact on college and pre-college academic commitment, and based on the responses received from the participants, it appears this is a factor. The motivating factors of wanting to help people and financial stability have surfaced as strong indicators of student program choice, as well as has contributed to their goals to persist in these programs. In addition to motivating factors, Guiffrida (2005) also highlighted university social systems as impacting student motivation and academic success. Participants did discuss the importance of the interactions with “like-minded students” and with the instructors and others involved in their pipeline programs pre-college with some of these relationships trickling into their college years. These interactions appear to further contribute to the motivation of URM students persisting in their health professions programs as well.
**Shifting to social capital theory.** A bit of what both Tinto and Guiffrida allude to in their depiction of the student departure model theory is the concept of social capital. Some of the components they mentioned are descriptors of social capital. In my opinion, the conceptual framework should be revised by removing the student departure model and replacing it with social capital as this factor appeared to be at the heart of both health program choice and why participants persisted in health professions programs. Participants highlighted many pieces that fall into the social capital theory category. They discussed the knowledge and insight gained from their pipeline instructors, as well as the contacts made because of their relationships with these instructors. Also, they discussed the impact in regards to mentoring and program assistance they achieved through the relationship, as well as networking that occurred with the health professions faculty and advisors. Additionally, the networking they built with health professionals in the community via the conferences and worksites they visited. These networking experiences the participants discussed can directly be tied back to social capital theory. Bourdieu & Wacquant (2002) define the social capital theory as “the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (p. 119). The majority of the factors that participants indicated were of value to them in the process of choosing a health professions program, and enrolling in a health professions program comes back to social capital. This appears to be a much stronger factor in the program choice and persistence in a health profession’s program than the student departure model theory. Social capital is something that a great deal of URM students do not possess when entering college, and for several, their parents do not have well established social capital either,
whereas for many majority students they can utilize their parents’ social capital (e.g. the networks/connections they have built) to get ahead in their college programs.

**Pipeline programs.** As previously discussed in this chapter, the experience of the pipeline program was a key factor in the decision of participants to choose and enroll in health professions programs, and thus remains as an integral part of the conceptual framework. The well-established literature and study themes that emerged support the original conceptual framework presented in chapter one, however, participant responses necessitate a change to the original framework. While the student departure model is strongly supported in the literature as being a factor of student persistence, the study findings suggest a stronger factor emerged from the responses that supports replacing the student departure model with the social capital theory (Figure 6). Social capital appears to be a stronger indicator for participants choosing and persisting in health professions programming.
Implications for Organizations

In order to increase the numbers of URM students in health professions programs, a concerted effort must be made on the part of universities and colleges across the country. The literature provides a good blueprint to where those efforts should be ramped up. Pipeline

programs have long been utilized to increase numbers of URM students (Augustine, 2010; Sullivan, 2004), but there are certain aspects of the pipeline that I believe are more vital for URM students than others. Creating additional pipeline programs is ideal but may not be practical based on the financial responsibilities of running such a program, so additional ways to expose students to health professions careers is needed.

Participants discussed not having the knowledge about various health professions and not being exposed to it at their high schools. Many of them had not been exposed to this information early on. Perhaps universities could offer career days or similar programming where students could come to the health professions schools and be exposed to the various health professions and the lab or simulation spaces available in these schools. Health professions programs must have a stronger presence in high schools regarding exposure to the health professions fields. This opportunity would also allow students to meet health professionals and perhaps create relationships with these professionals that could be utilized in the future. Additionally, other educational support and resource opportunities could occur through this programming as well. Bringing in professional academic advisors from health professions programs, as well as health professions faculty to provide additional information and resources. For example, what classes should students focus on in high school to better prepare them for health profession programs, classes such as biology, chemistry, and algebra. Programs that provide students with resources and social capital are valuable commodities for URM students wanting to pursue health professions careers. Assuring that URM students have access to informative programming on health professions careers is an important part of the prescription to increase URM numbers in health professions programs.
Implications for Future Research

There is a considerable amount of research on URM recruitment and persistence literature and a fair amount on pipeline programs as a whole. The majority of the literature focuses on how to get URM students into colleges and universities, but less on the lived experiences of the URM students. In addition, not much focus has been done on URM students in health professions programs and the lived experiences of these individuals. This study focused on URM participants who had been involved in health professions pipeline programs and chosen to pursue a major in health professions. Truly understanding the factors that influenced and caused URM students to successfully pursue health professions programs is an important component needed to revise programs to create more conducive environments for success for these students.

Additional research should be done to shed light on URM students’ successful pursuit of health professions programming. Participants in this study had gone through the pipeline programs a few years prior to the study. This caused the participants to be a bit hazy on some of the details that aided them in their successes. Interviewing URM students going into health programs within six months to a year of graduation from high school or of completing a pipeline program could yield richer data about the influences of them choosing a health professions field and what factors attributed to their successes. By interviewing students sooner, it would allow them to be clearer on their descriptions and provide more details because they remember it more vividly. Additionally, asking about what items could have been in place to better contribute to their successes should be discussed as well. Furthermore, I could also extend this study and collect additional URM students’ perceptions of their lived experience to reach saturation and perhaps gain deeper insight.
Moreover, to truly get to the crux of what attributed to student successes in health professions programs, a different research approach might produce richer data as well. Perhaps interviewing students just graduating from health professions program about the influences and factors that help contribute to their program successes could be just the right information needed to make positive adjustments to pipeline and health professions programs that could create better potential for URM students to successfully complete these programs.

In addition, working with the national Area Health Education Center (AHEC) to create a comprehensive qualitative study on diversity pipelines and their URM participants could be groundbreaking. AHEC has 56 programs that are available in nearly every state in the United States (National AHEC Organization, 2015). A study with this volume of programming would give access to a robust amount of data that could be used to create meaningful insight to add to the body of literature on URM pipeline programming.

Lastly, although the students in the study did not focus heavily on race, I speculate that creating stronger influences on race for URM students, may increase their success. Looking at national pipeline programs that have strong focuses on strengthen cultural ties, and their success rates, may be an additional area to study. Perhaps adding in more cultural pieces to URM pipeline programs, could yield stronger success rates.

Limitations

At the beginning of this study, I realized the limitation of a narrowly focused scope that this study possessed. Studying URM students, who had gone through a health professions pipeline program and successful enter into a health professions program is a very narrow focus, however, in order to increase the numbers of URM students in health professions programs and
understanding what influences helped them achieve this success is are important factors to eventually moving towards an increase of URM health professions practitioners.

Additionally, another limitation of this study was the low numbers of study participants, which created an issue of not reaching saturation for this study. This makes it difficult to generalize about the data and make strong inferences about the responses. The stronger the saturation of a qualitative study, the more strength the researcher has in those inferences. While the study was challenging, the responses are still an important contribution towards the previous information provided in the literature.

Summary

The purpose of this phenomenological study was to explore the lived experiences of URM students coming from pipeline programs who chose to enroll in a degree seeking health professions program. Specifically, the study’s aim was to look at what experiences are URM students having that brought them into health professions programs and additionally, what appear to be the barriers? To guide the focus of the study and to help explore the phenomenon of URM health professions students, the following questions were utilized:

The overarching question that guided this study was how do URM students who participated in a pipeline program reflect on their lived experiences and identify what experiences they believe accounted for their decision to enroll in a higher education health professions program? Additional subquestions included:

1) How did the URM students’ interest in the health professions begin?
2) How do URM students develop and maintain their interest in the health profession?
3) What led URM students to actually decide to enroll in the health professions program?

Along the way, what were the inhibitors and what were contributors to enrolling?
A phenomenological research designed was employed to explore the research questions and to gain a better understanding of URM students and their lived experiences pertaining to health professions programs, as well as the participants’ experiences with pipeline programming. Information was obtained through a semi-structured open-ended interview approach. In total, there were seven participants from one pipeline program that attended four different universities. Each participant was interviewed twice to create a sense of trust and to gather information pertaining to the study phenomenon. Upon completion of the data analysis, four major themes emerged and four a priori constructs utilized from the findings. These results shed some additional light on the experiences of URM students, their pathway to health professions programs, and the reasoning behind choosing health professions.

The findings of the study are applicable to both health professions pipeline programs, higher education institutions, and high school programs. The themes centered around access and participation, curriculum and quality teaching and learning, social and emotional development, and developing social capital. When comparing these themes to the literature, much of the findings support the existing literature, with two exceptions, the first being that parents seemed to have a much stronger influence on students choosing health professions programs, and social capital being a major contributor to the participants’ success in entering health professions programs. These factors caused me to shift one of the components of my conceptual framework from the Student Departure Model to the Social Capital Model to show the contribution this model has to URM student success in health professions programs. An important thing to note is the lack of complete saturation in the study and the difficulty this creates to in making generalized statements that can be applied to a larger URM audience.
As the landscape of our national demographics continues to evolve and become more diverse, so too is the need for diverse health professions professional. We cannot reach strong diverse numbers in the health professions, without increasing the pool of URM students in health professions programs. Pipeline programs have long been utilized to increase URM numbers in health professions programs, but they stop short of really significantly impacting increased numbers. Understanding URM students’ needs and changing both pipeline and health professions programs to meet those needs are vital to creating an environment in which URM students can thrive and be successful in health professions programs. The key to this understanding is learning through looking at the lived experiences of these students to create stronger learning environments.
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Appendix A

HSIRB Approval
Appendix A

HSIRB Approval

Date: July 14, 2015

To: Donna Talbot, Principal Investigator
    Alisha Davis, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number 15-06-20

This letter will serve as confirmation that your research project titled “Experiences of Underrepresented Minority Students in Health Professions Programs, and Their Journeys to the Program” has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes in this project (e.g., you must request a post approval change to enroll subjects beyond the number stated in your application under “Number of subjects you want to complete the study”). Failure to obtain approval for changes will result in a protocol deviation. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

Reapproval of the project is required if it extends beyond the termination date stated below.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: July 13, 2016
Appendix B

Program Email
Appendix B

Program Email

I am a doctoral candidate at Western Michigan University. My dissertation looks at the experiences of underrepresented minority health professions students who have completed a pipeline program. In researching programs in the Midwest, I came across your program and am very interested in learning more. I would like to gather details about your program and discuss whether it is possibly a good fit for possible study participants. I was wondering if I could speak with you more about the program, the student population, and so on, is that possible?
Appendix C

Initial Program Investigation
Appendix C

Initial Program Investigation (via telephone or Skype)

As I stated during our initial email, I am a doctoral candidate working on my dissertation at Western Michigan University. I am focusing on underrepresented minority students who have participated in a pipeline program and are currently enrolled in a health professions program. The purpose of my study to gather information on their lived experiences and identify what experiences they believe accounted for their decision to enroll in a health professions program.

During my initial investigation of pipeline programs in the Midwest who were relatively close in proximity to my location, I came across your program and wanted to learn more. I did go to your website and read about your program, but please tell me more.

Questions:

1. Tell me about your program?
   a. How does the program work?
   b. What does the program include?
   c. How did your program come about?
   d. How long has it been in existence?
   e. How many students have gone through your program?
   f. Do you have contact information for former students?
   g. Do you track what college programs they enter into?

Your program appears to be a good match for the type of students I am looking to utilize for my study. Once I have gone through all of the approval processes, would you be willing send out an invitation flyer to your former program participants, who are currently attending college?

Thank you so much for your time and you will be hearing from me in the future.
Appendix D

Program Email with Invitation
Appendix D

Program Email with Invitation

Hi Program Director’s Name,

I hope this message finds you well. I hope that you remember me. I am Alisha Davis, the doctoral candidate from Western Michigan University working on a research study for my dissertation on minority health professions students who have been apart of your pipeline program.

During our previous discussion, we talked about your program being a good match for my study and your willingness to send an invitation flyer out to your former program participants, who are currently enrolled in college. I have finally completed the approval processes for the study and am ready to move forward into the actual research. Would you please email the attached flyer to your former students?

Thank you so much for your time!
Appendix E

Invitation Flyer
PARTICIPANTS NEED FOR A GRADUATE STUDY RESEARCH PROJECT ON MINORITY HEALTH PROFESSIONS STUDENTS AND PIPELINE PROGRAMS.

I am looking for volunteers to take part in a study on the experiences of minority students in health professions programs, who were completed in a pipeline program.

As a participant in the study, I will invite you to participate in an interview about your experiences. Your participation would involve a telephone call to discuss your interest in being a part of the study and to arrange a 1-hour interview.

In appreciation for your time, you will be entered into a drawing for the give-a-way of two $25.00 gift cards.

If you are interested in taking part in the study, please click on the Survey Monkey link to answer some preliminary questions. (SURVEY MONKEY LINK HERE)

For questions or more information, please contact:
Alisha Davis at alisha.l.davis@wmich.edu
Appendix F

Screening Protocol: Introduction to the Study Survey Monkey
Appendix F

Screening Protocol: Introduction to the Study

Survey Monkey

Minority Health Professions Students Study

My name is Alisha Davis, I am a doctoral candidate working on my dissertation project at Western Michigan University and am conducting a study on minority health professions students.

Purpose: The purpose of my study is to gather information on the experiences of minority health professions students who were once involved in a pipeline program.

Time commitment: The Survey Monkey will take less than 5 minutes to complete. If you are selected for the study, you will be asked to participate in an initial telephone interview that will take approximately 30-45 minutes of your time. Additionally, you will be asked to participate in an interview that will take approximately 1-hour of your time.

What will you be asked to do: You will be asked during the initial telephone interview about your interests in being a participant in the study and whether or not you meet the criteria for the study participants. Additionally, you will be asked for an interview about your experiences as a minority in a health professions program who was once a part of a pipeline program. During the interview, you will be asked a series of questions. These questions are designed to allow you to share your experiences of being a minority health professions student who was once part of a pipeline program.

What information is being measured: During the study, you will be asked about your experiences as a minority in a health professions program who was once a part of a pipeline
program. These questions are designed to allow you to share your experiences about the experience of being a minority in a health professions program.

Risks and benefits: There are no known risks or discomforts associated with this research. There is no benefit to participating in this study. The information gained from this study may help us to better understand the experiences of minority students who are enrolled in health professions programs and were once apart of pipeline programs.

Costs: There are no costs associated with participating in this study.

Compensation: You will not receive any type of compensation for participating in this study; however, participants will be entered into a drawing for one of two $25.00 gift cards as a thank you for participating.

Confidentiality: During the interview, you will be asked to provide a pseudonym to insure that your identity is kept private. The audio recording will be assigned the pseudonym that you picked during the interview. Audiotapes will only be used to transcribe the interview. Once the interview is transcribed, the audiotapes, and interview transcripts will be kept for 5 years in a locked cabinet in the investigator’s office and she will have access to them. The information obtained during this study may be published in scientific journals or presented at scientific meets but the data will be prepared as aggregated data or use pseudonyms.

If you want to stop the study: You can choose to stop participating in the study at anytime for any reason. You will not suffer any prejudice or penalty by your decision to stop your participation. You will experience NO consequences either academically or personally if you choose to withdraw from this study.

The investigator can also decide to stop your participation in the study without your consent.
Questions: Should you have any questions prior to or during the study, you can contact the primary investigator, Alisha Davis at 616-331-5990 or alisha.l.davis@wmich.edu. You may also contact the Chair, Human Subjects Institutional Review Board at 269-387-8293 or the Vice President for Research at 269-387-8298 if questions arise during the course of the study.

Implied consent: By agreeing below, you imply you have read this information and agree to participated in the study. Thank you for your participation.

Do you agree to this consent form? Yes  No

1. Please select your race
   a. African American/Black
   b. Hispanic/Latino
   c. Native American
   d. Other ________________________

2. What university do you attend?
   a. University of Illinois
   b. Wayne State University
   c. Grand Valley State University
   d. Ferris State University
   e. Other ________________________

3. What pipeline program did you participate in?
   a. Beaumont Future Medical Scholars
   b. Urban Health Program
   c. Health Sciences Early College Academy
d. Other ______________________

4. What health professions program are you enrolled in (e.g. allied health sciences, nursing)?
   a. __________________________

5. Please provide your contact information (by providing this information you are agreeing to be contacted by the researcher)
   a. Name
   b. Address
   c. Telephone number
   d. Email address

6. What is the best date and time to call you?
   a. Date: ______________
   b. Time: ______________

If you are selected for the study based on the selection criteria of the study, an email will be sent to you confirming the date and time of your telephone call.

Thank you for your participation.

For more information or additional questions, please contact

Alisha Davis at alisha.l.davis@wmich.edu
Appendix G

Follow Up Reminder to Complete the Survey Monkey
Appendix G

Follow Up Email Reminder to Complete the Survey Monkey

Week 1 and 2 Reminders:

One/Two week(s) ago, you received an invitation to participate in a study about the lived experiences of minority health professions student who were involved in a pipeline program. If you do not remember or did not receive the email, I would like to remind you of its purpose. As a participant in the study, I would ask to interview you about these experiences. Your participation would involve a telephone call to discuss your interest in being apart of the study and a 1-hour interview.

In appreciation for your time, you will be entered into a drawing for the give-a-way of two $25.00 gift cards.

If you are interested in taking part in the study there is still time left, please click on the Survey Monkey link to answer some preliminary questions. (SURVEY MONKEY LINK HERE). Time is of the essence, so if you are interested please click on the link today.

Thanks you for your time.

For questions or more information, please contact:

Alisha Davis at alisha.l.davis@wmich.edu
Appendix H

Participant Confirmation Email for the Initial Telephone Call
Appendix H

Participant Confirmation Email for the Initial Telephone Call

Thank you for taking the time to complete the Survey Monkey Survey and for your interest in being a part of the Minority Health Professions Student Study. From your response on the survey, the best time and date to contact you is

Date: ______________
Time: ______________
at the following telephone number: ________________

If your availability during this date and time has changed, please respond to this email with a new date and time I can contact you.

I am looking forward to talking with you more about your experiences as a minority health professions student. However, in order to contact you, you must complete the attached informed consent form. **Please complete the form, sign electronically and return to me by email or you may fax it to me at 616-331-5556 no later than ____________(2 days prior to telephone call).**
Appendix I

Inform Consent Form
Appendix I

Informed Consent Form

Western Michigan University
Department of Educational Leadership, Research and Technology
Principal Investigator: Donna Talbot, Ph.D.
Student Investigator: Alisha Davis
Title of Study: Experiences of Underrepresented Minority Students in Health Professions Programs, and Their Journeys to the Program

You have been invited to participate in a research project titled "Experiences of underrepresented minority students in health professions programs, and their journeys to the programs." This project will serve as Alisha Davis’s dissertation project for the requirements of the Doctor of Philosophy. This consent document will explain the purpose of this research project and will go over all of the time commitments, the procedures used in the study, and the risks and benefits of participating in this research project. Please read this consent form carefully and completely and please ask any questions if you need more clarification.

Who can participate in this study?
You are eligible to participate in this study because you have reported being an underrepresented minority (Black/African American, Hispanic/Latino or Native American) student currently enrolled in a health professions program and completed a pipeline program.

Where will this study take place?
The interview will be audio-recorded and will take place at a location of your choosing or via computer conferencing (Skype or ooVoo).

What are we trying to find out in this study?
This study will explore how underrepresented minority students who participated in a pipeline program reflect on their lived experiences and identify what experiences they believe accounted for their decision to enroll in a higher education health professions program.

What is the time commitment for participating in this study?
You will be asked to participate in an initial telephone interview that will take approximately 30-45 minutes of your time. Additionally, you will be asked to participate in an interview that will take approximately 1-hour of your time.

What will you be asked to do if you choose to participate in this study?
You will be asked during the initial telephone interview about your interests in being a participant in the study and whether or not you meet the criteria for the study participants. Additionally, you will be asked for an interview about your experiences as a minority in a health professions program who was once a part of a pipeline program. During the interview, you will be asked a series of questions. These questions are designed to allow you to share your experiences of being a minority health professions student who was once part of a pipeline program.
What information is being measured during the study?
During the study, you will be asked about your experiences as a minority in a health professions program who was once a part of a pipeline program. These questions are designed to allow you to share your experiences about the experience of being a minority in a health professions program.

What are the risks of participating in this study and how will these risks be minimized?
There are no known risks or discomforts associated with this research.

What are the benefits of participating in this study?
The information gained from this study may help us better understand the experiences of minority students who are enrolled in health professions programs and were once part of pipeline programs.

Are there any costs associated with participating in this study?
There are no costs associated with participating in this study.

Is there any compensation for participating in this study?
You will not receive any type of compensation for participating in this study, however, participants will be entered into a drawing for one of two $25.00 gift cards as a thank you for participating.

Who will have access to the information collected during this study?
During the interview, you will be asked to provide a pseudonym to ensure that your identity is kept private. The audio recording will be assigned the pseudonym that you picked during the interview. Audiotapes will only be used to transcribe the interview. Once the interview is transcribed, the audiotapes, and interview transcripts will be kept in a locked cabinet in the investigator’s office and once the data has been analyzed and is no longer needed, it will eventually be moved and stored in Western Michigan University’s University Archives for three years. The information obtained during this study may be published in scientific journals or presented at scientific meets but the data will be prepared as aggregated data or use pseudonyms.

What if you want to stop participating in this study?
You can choose to stop participating in the study at anytime for any reason. You will not suffer any prejudice or penalty by your decision to stop your participation. You will experience NO consequences either academically or personally if you choose to withdraw from this study.

The investigator can also decide to stop your participation in the study without your consent.
You can choose to stop participating in the study at anytime for any reason. You will not suffer any prejudice or penalty by your decision to stop your participation. You will experience NO consequences either academically or personally if you choose to withdraw from this study.

The investigator can also decide to stop your participation in the study without your consent.

Should you have any questions prior to or during the study, you can contact the primary investigator, Alisha Davis at 616-331-5990 or alisha.l.davis@wmich.edu. You may also contact the Chair, Human Subjects Institutional Review Board at 269-387-8293 or the Vice President for Research at 269-387-8298 if questions arise during the course of the study.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board (HSIRB) as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in this study if the stamped date is older than one year.

I have read this informed consent document. The risks and benefits have been explained to me. I agree to take part in this study.

Please Print Your Name

Participant's signature Date
Appendix J

Reminder Email about Interview 5 Days Prior to Interview
Appendix J

Reminder Email about Interview 5 Days Prior to Interview

Hello

This is a friendly reminder about the interview we set [# of weeks/days] ago. We are set to meet at [location] on [date] at [time]. If something should come up and you need to reschedule. Please contact me as soon as possible. I am looking forward to meeting with you.

Thanks,
Appendix K

Email Participants Who Do Not Meet the Criteria for the Study
Appendix K

Email

Participants Who Do Not Meet the Criteria for the Study

Thank you for your interest in the Minority Student Health Professions Study. I appreciate you taking the time to answer the questions on the Survey Monkey; however, there is a strict protocol for participants to be selected for this study. Unfortunately, you did not meet those criteria and will not be selected to participate in the study. You will not be contacted any further regarding participation in the study.

Thank you for your time. It was much appreciated.

Alisha Davis
Appendix L

Initial Phone Interview to Establish Trust and Set Up an Interview Date and Time
Appendix L

Initial Phone Interview to Establish Trust and Set Up an Interview Date and Time

Hello, I am Alisha Davis from the Minority Health Professions Study. You responded to an invitation sent by ___________________________ (program named on the survey) and answered some demographic questions on a Survey Monkey. The questions you answered helped to select you as a participant for the study based on certain selection criteria. I appreciate you taking the time to answer the survey questions and for agreeing to speak with me today.

As I mentioned in the flyer and on the survey, I am a graduate student from Western Michigan University conducting a survey on minority health professions students who were a part of a pipeline program. The purpose of the study is to explore how underrepresented minority students who participated in a pipeline program reflect on their experiences and identifies what experiences may have accounted for their decision to enroll in a health professions program. As I mentioned in the informed consent form you submitted, participation is completely voluntary and you can choose to withdrawal from the study at any time.

I would like to chat with you a bit and learn a little bit more about you before we sit down for the interview. We can break the ice a bit.

Tell me about yourself

a. I was wondering, what interested you in participating in the study?

b. Do you have family member who works in the health professions?

c. What university do you attend?

d. This might sound like an odd question, but is school easy for you?

Interview Scheduling
a. So let’s look at our schedules to select a day and time to meet that work for both of us. I have a few options we can begin with. OPTIONS

b. So where would you like to meet? It can be on campus or at your favorite coffee shop, a place that you feel comfortable meeting. We can also meet via Skype, ooVoo or telephone if that would work better for you.

c. So just to reiterate, you will be meeting with me at day/time/location correct?

Do you have any questions for me?

I wanted to thank you for your openness to talking and sharing with me. I’m very excited and looking forward to our discussion. Talk to you soon, bye-bye.
Appendix M

Interview Protocol
Appendix M

Interview Protocol

Interview

1. Introduction
   a. Reintroduce myself
   b. Discuss the purpose of the study
   c. Provide a copy of the informed consent form they signed with my signature
   d. Provide the structure of the interview (audio recording, taking notes, using pseudonyms for confidentiality)
   e. Ask them to choose a name for their pseudonym
   f. Test the audio equipment

2. Talk to me about what started your interest in the health professions.
   a. Prompt: Were there any specific factors or people who shaped your interest?
   b. Prompt: Do you have any examples of experiences that may have shaped your interest?

3. Tell me a little about what helped the development of your interest. How did you come to enroll in the pipeline program?
   a. Prompt: Do you remember any specific experiences that helped you maintain an interest in health professions?
   b. Prompt: Do you remember any specific experiences that helped you to become involved in the pipeline program?

4. Tell me about your experiences being involved in a pipeline program.
a. Prompt: Do you remember anything specific about your experience that helped or hindered you?

b. Prompt: Do you remember anything specific about your pipeline program experience that influenced your involvement in the health professions?

c. Prompt: Are there any specific examples of your pipeline program experiences that have helped you in your health profession program?

5. Is there anything else you would like to share about the topics we discussed that you feel is important for me to know?

6. Conclusion

a. Thank them for their participation.

b. Inform them that I will be contacting them to review the transcription of the audio recording for accuracy and they can add anything they may have forgotten at this time.

c. The information obtained during this study may be published in scientific journals or presented at scientific meets but the data will be prepared as aggregated data or use pseudonyms. I hope that you have an opportunity to read it.
Appendix N

Member Check Email
Appendix N

Member Check Email

I wanted to thank you again for taking the time to let me interview on your experiences as a minority in a health professions program. As I mentioned at the conclusion of the interview, I will be sending you your transcript to read over to make sure it accurately conveys your thoughts and to provide you with an opportunity to make any additions. Your transcription is attached to this email. Please review it as soon as possible and send any changes or additions to me by _______________ at 5:00 pm. If I do not here from you in 10 days, I will assume the transcripts are accurate and no changes need to be made. Please respond to this email. The information needed to easily identify this email is already in the subject line.

Thanks again,
Appendix O

Thank You Email and Gift Card Announcement
Appendix O

Thank You Email and Gift Card Announcement

I would like to thank you for meeting with me to discuss your experiences as a minority student in the health professions. The information gained from this study may help us to better understand the experiences of minority students who are enrolled in health professions programs and were once apart of pipeline programs.

[If they were the winner of the drawing: Congratulations, you were the winner of the $25.00 gift card drawing as a thank you to participants for participating. An eGift card for $25.00 will be emailed to you from GiftCards.com.]

Thank you again for participating.
Appendix P

Copyright Permission
RE: Request permission for use of the Coordinated Health Workforce Pathway

Jeffrey Oxendine <oxendine@berkeley.edu>

Sun 2/25/2018 7:33 PM

To: Alisha L Davis <alisha.l.davis@wmich.edu>

Hello Alisha, Thank you for reaching out. It will be great if you use the pathway model for your dissertation. You dissertation topic sounds very aligned with my passion and decades of work. I would be happy to speak with you if it would be helpful to you. Would also like to learn from your approach and findings.

Best,
Jeff

From: Alisha L Davis [mailto:alisha.l.davis@wmich.edu]  
Sent: Sunday, February 25, 2018 4:27 PM  
To: oxendine@berkeley.edu  
Subject: Request permission for use of the Coordinated Health Workforce Pathway

Dear Jeff Oxendine,

I would like to request your permission to include an excerpt from the following item in my dissertation from Western Michigan University:


The purpose of my dissertation is to discuss the lived experiences of underrepresented minorities who have entered university health professions programs by way of high school pipeline programs in the Midwest. I am looking at what were their overall pipeline experiences, their successes and barriers, and why they chose health professions programs. When I saw your illustration of the health workforce pathway, it is the perfect visual depiction for my explanation on health professions pipelines and their infrastructure. I would be using it as a figure within my dissertation in the literature review section. I am seeking to receive permission to use your illustration in my dissertation. You will receive full credit in the manuscript.

By agreeing to the use of the item in my dissertation, you give ProQuest Information and Learning (PQIL) the right to supply copies of this material on demand as part of my doctoral dissertation. Please attach any other terms and conditions for the proposed use of this item.

If you no longer hold the copyright to this work, please indicate to whom I should direct my request.

Thank you for your time and attention to this matter.

Sincerely,

Alisha Davis
alisha.l.davis@wmich.edu
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Hello Alisha,

My manager would like to extend permission to you allowing the use of these figures gratis. We ask that, in addition to including the full figure legends with the authors' sources and notes, you provide full citations and the phrase "copyright Project HOPE/Health Affairs."

The citation format that we generally require is listed below; however, we do realize that citation format varies from institution to institution and that yours may differ slightly.

Copyrighted and published by Project HOPE/Health Affairs as: Kevin Grumbach and Rosalia Mendoza. "Disparities in Human Resources: Addressing the Lack of Diversity in the Health Professions." Health Affairs (Millwood) 2008, Vol. 27, No. 2: 413-422; doi 10.1377/hlthaff.27.2.413. The published article is archived and available online at www.healthaffairs.org. Reused with permission from Project Hope/Health Affairs.

Should your institution require a formal letter of permission, please let me know and I will be happy to provide one.

Best wishes,

Judith Redding, Permissions Coordinator, Health Affairs

KWF Editorial Services  1010 s streeper st l baltimore md 21224
judith.redding@kwfco.com | www.kwfco.com
I would like to request your permission to include two tables from the following item in my dissertation from Western Michigan University:


The purpose of my dissertation is to discuss the lived experiences of underrepresented minorities who have entered university health professions programs by way of high school pipeline programs in the Midwest. I am looking at what were their overall pipeline experiences, their successes and barriers, and why they chose health professions programs. When I saw the tables on Percentage of Underrepresented Minorities Among US Health Professions Students and Race/Ethnicity of the US Population Compared with US Health Care Professions I knew I wanted to include them in the literature review section of my dissertation to help paint the picture of the disparities of URM health practitioners and health professions students. I am seeking to receive permission to use your tables in my dissertation. You will receive full credit in the manuscript.

By agreeing to the use of the item in my dissertation, you give ProQuest Information and Learning (PQIL) the right to supply copies of this material on demand as part of my doctoral dissertation. Please attach any other terms and conditions for the proposed use of this item.

If you no longer hold the copyright to this work, please indicate to whom I should direct my request.

Thank you for your time and attention to this matter.

Sincerely,

Alisha Davis
alisha.l.davis@wmich.edu