PREDICTORS OF STUDENT SUCCESS IN AN ONLINE MASTER OF PUBLIC HEALTH DEGREE PROGRAM

by

MELISSA ALPERIN

(Under the Direction of Sheila Slaughter)

ABSTRACT

In the U.S., the growth of students taking online courses has outpaced the growth of the overall higher education student body as illustrated in a 2014 report by Allen and Seaman. Master of public health (MPH) programs that are delivered fully (or partially) online provide an opportunity for public health professionals who do not have formal training–and who cannot leave their job–to get the academic training and credential that is needed to do their jobs effectively.

Using the Composite Persistence Model by Rovai, this mixed methods study examined predictors of student success in a distance-learning MPH program. The research questions included were a) What are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing? and b) What were the experiences of students with good and bad program standing?

Key findings from the regression analysis indicate that those who were more likely to be in good standing were female, white/Asian, Applied Epidemiology majors, enrolled fulltime, or began the program in fall 2012. Additionally, for every unit of

increase in GPA at the fifth semester, the probability of being in good standing increased 12%.

To further understand the experiences of students, 19 semi-structured interviews were conducted with participants from four groups (successful predictors – good standing, successful predictors – bad standing, upward achievement cases, downward achievement cases). An examination of the interview data suggests that five factors appear to distinguish the interview groups: a) alignment between program expectations and experience, b) support from place of employment, c) finances, d) experience at on-campus sessions, and e) alignment between learning and teaching styles.

A version of Rovai's model–revised for a professional graduate population–is presented. Recommendations for practice and areas of future research are also included.

A better understanding of the student experience, allows institutions of higher education–including schools and programs of public health–to target those individuals who are more likely to succeed; and provide resources to those students who have enrolled but are at risk for not completing their programs of study.

INDEX WORDS: Predictors of Student Success, Persistence, Rovai Composite Persistence Model, Master of Public Health (MPH) Degree, Online Education, Distance Education

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by

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DEDICATION

"Silent gratitude isn't much use to anyone." – G.B. Stern

To Dr. Kathy Miner, who from the day I set foot on the campus of Emory University, has been my biggest supporter and who from the day I earned my MPH has ~~bugged~~ (aka "encouraged") me to earn my doctoral degree.

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CHAPTER 1

INTRODUCTION

This study uses a mixed methods approach to examine the predictors of student success and student experiences in an online executive master of public health (MPH) program. This chapter provides a general introduction to the study including background on distance education, public health and the executive MPH program. Additionally, the purpose of the study, research questions and propositions, and conceptual framework are discussed.

Distance and Online Education

History of Distance Education in the United States

While many associate the concept of distance education with computer technology, Caruth and Caruth (2013) state that the origins of distance education can be traced to Anna Eliot Ticknor and the 1873 founding of the Society to Encourage Studies at Home, a correspondence program that educated more than 7,000 women by sending educational material through the mail. Ten years later, the Chautauqua Correspondence College, which was founded in 1881, was authorized by the state of New York to award diplomas and degrees (Moore, 2003). Correspondence education became part of the university landscape in 1892 when the University of Chicago created the Department of Home Study as part of its Extension Division (Caruth & Caruth, 2013; Moore, 2003). Early experimentation in the 1910s and 1920s, with using radio technology to deliver education programs, failed but the use of televisions to broadcast educational content began in the 1930s and found success (Moore, 2003).

Moore (2003) suggests that a turning point in the history of distance education was 1964 when Charles Wedemeyer received a grant from the Carnegie Foundation to fund the Articulated Instructional Media (AIM) Project. AIM courses were offered using a variety of media that

included correspondence materials, radio, television, audiotapes, telephone conferencing, and local support (library resources, tutoring, study groups) (Wedemeyer & Najem, 1969). The AIM Project also created the concept of a course development team, where instructional designers, technologists, and content experts worked together to develop courses (Wedemeyer & Najem, 1969). Although the project eventually lost funding, the AIM Project offers lessons for future distance education endeavors.

Teleconferencing (1970s) and videoconferencing (1980s) were used to deliver educational content in the latter half of the 1900s, although it was not until the 1990s, when a number of universities began to offer web-based education programs (Moore, 2003).

To describe the current landscape of educational delivery models, Hill (2012) categorized programs along two dimensions: a) modality (face-to-face, blended/hybrid, online course, fully online); and b) course design (facilitators and participants, individual faculty, faculty team, instructional design team including faculty). Within these dimensions, Hill (2012) describes seven models: a) ad hoc online courses and programs; b) fully online programs; c) school-as-service; d) educational partnerships; e) competency-based education; f) blended/hybrid courses and the flipped classroom; and g) massive open online courses (MOOCs).

In Hill's (2012) taxonomy, ad hoc online courses and programs are those that are not based on an institution's formal policy or strategy but instead are created by individual faculty who believe that students have positive learning outcomes from online courses. Fully online courses, which historically have been developed by for-profit institutions, are based on the concept of a "master course" that is developed and then replicated multiple times enabling adjunct faculty to teach the different sections (Hill, 2012). According to Hill (2012), the school-as-service model is when an educational institution partners with an external company to provide online content, curriculum, and student services. In the educational partnership model, external partners provide institutions with online courses and an extensive worldwide network of instructors who teach in similar programs. In this model, Hill (2012) says that students may

pursue courses as part of a degree program but more often they are pursuing industry certifications. Although not unique to online education, competency-based education is an example of outcomes-based education, where the focus is on the desired outcomes and the learning experiences are designed to help students meet these outcomes (Hill, 2012). Hill's (2012) sixth model is the blended/hybrid program which combines both online and face-to-face instruction and the term "flipped classroom" refers to providing content in a distance environment so that face-to-face class time can be used for practice and application opportunities. Hill's (2012) final model, MOOCs, are courses that can be scaled to accommodate an unlimited number of students (often in the tens of thousands).

In today's current reality, the emergence of web-based technologies has resulted in a shift to "online" education, although the generic term "distance education" is often still used to describe this type of delivery.

Definition of Distance Education

> Today, one of the most commonly cited definitions of distance education is:
>
> Distance education is planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements. (Moore & Kearsley, 1996, p. 2)

Although almost 20 years old, this definition is more closely aligned with online education as opposed to earlier forms of distance education (e.g., correspondence education).

Growth of Online Education

In the United States, the growth of students taking online courses has outpaced the growth of the overall higher education student body as illustrated in a 2014 report by Allen and Seaman. Using data from degree-granting postsecondary institutions, Allen and Seaman (2014) report that in 2012 there were 7.1 million students taking at least one online course, which was up

from 1.6 million students in 2002 and represented a compound annual growth rate of 16.1%. They compare this to the overall higher education student body which has seen an annual growth rate of 2.5% during this same time period (Allen & Seaman, 2014).

While online programs and other forms of distance learning (e.g., blended or hybrid), offer many benefits to students including flexibility, convenience and the ability to access instruction anywhere and anytime, these students are also faced with a myriad of challenges such as computer literacy and navigation skills, student responsibility for the learning experience, and fear of isolation (Wojciechowski & Palmer, 2005). The literature suggests that retention is a challenge in online programs and that dropout rates are higher in online programs than in conventional face-to-face programs (Cho, 2012; Gazza & Hunker, 2014). Since the cost of student failure includes not only the loss of revenue but also the loss of prestige and stakeholder trust in both institutions and students (Archer, Chetty, & Prinsloo, 2014), student success in the online environment is worthy of inquiry.

Public Health

What is Public Health?

The term "public health" evokes different images to different people. To some, it describes a *system* of agencies (federal, state, local) and people (e.g., nurses, epidemiologists, statisticians, environmentalists, policy analysts, health educators or communicators) working on behalf of the public's health. For others, it describes a workforce that is tasked with solving important health problems (e.g., AIDS/HIV). Still others, think of a specific location (e.g., a local health department). And some think of the outcomes that public health has achieved (e.g., eradication of diseases, increased life expectancy, safer restaurants). In fact, public health encompasses all of these images.

One of the early definitions of public health is from C.E.A. Winslow in 1920, who said that public health is "the science and art of preventing disease, prolonging life and promoting health and efficiency through organized community effort" (as cited in Turnock, 2001). In 1994,

the Public Health Functions Project outlined public health by stating that public health a) prevents epidemics and the spread of disease; b) protects against environmental hazards; c) prevents injuries; d) promotes and encourages healthy behaviors; e) responds to disasters and assists communities in recovery; and f) assures the quality and accessibility of health services. Furthermore, the Public Health Functions Project (1994) took the three core functions of public health (assessment, policy development, assurance) and developed ten essential public health services, which provides a road map for contemporary public health practice:

- Assessment: 1) monitor health status to identify community health problems; and 2) diagnose and investigate health problems and health hazards in the community
- Policy Development: 3) inform, educate, and empower people about health issues; 4) mobilize community partnerships to identify and solve health problems; and 5) develop policies and plans that support individual and community health efforts
- Assurance: 6) enforce laws and regulations that protect health and ensure safety; 7) link people to needed personal health services and assure the provision of health care when otherwise unavailable; 8) assure a competent public health and personal health care workforce; and 9) evaluate effectiveness, accessibility, and quality of personal and population-based health services
- Cross-cutting: 10) research for new insights and innovative solutions to health problems

Public Health Accomplishments

To further understand public health, consider its accomplishments. The Centers for Disease Control and Prevention has identified the ten greatest public health achievements of the 20th century: 1) immunizations; 2) motor vehicle safety; 3) improvements in workplace safety; 4) control of infectious diseases; 5) declines in deaths from heart disease and stroke; 6) safer and healthier foods; 7) healthier mothers and babies; 8) family planning; 9) fluoridation of drinking water; and 10) decline in tobacco use (CDC, 2013). Despite these successes, there continue to be

challenges that face public health. These include lack of safe water, emerging infections, climate change, global obesity, and changing demographic patterns (Rosenstock, Helsing, & Rimer, 2011).

Public Health Education

Much like the Flexner report helped define medical education in the United States, the *Welch-Rose Report* of 1915 is the seminal document that differentiated public health and medical education in the U.S. and called for schools of public health to be aligned with–yet independent of–schools of medicine (Fee, 1992; Rosenstock, Helsing, & Rimer, 2011; Welch & Rose, 1915).

In the U.S. the need for public health education can be traced back to the late 19th century and the social conditions stemming from the industrial development of the country. This was a time of rapid growth in cities, increased immigration, and crowded tenement housing (Fee, 1992). City streets were full of garbage and dead and decaying animal carcasses; factories added noise, pollution and waste to the environment; young children were dying from diarrheal and respiratory diseases, whooping cough, typhoid fever and smallpox, while young adults were succumbing to tuberculosis and other infectious diseases (Fee, 1992; Rosenstock, Helsing, & Rimer, 2011). To address the social and health problems in the northeast, social reform groups were organized and city health departments were expanded to include divisions of street cleaning, sanitary engineering, vital statistics, bacteriological labs, tuberculosis and venereal disease control and maternal and child health. However, they struggled to find qualified individuals with the necessary skills to do the needed jobs (Fee, 1992).

Fee (1992) describes the southern states in this post Civil War era as "an underdeveloped country within the United States" (p. 4). It was during this time that John D. Rockefeller created the General Education Board in an effort to address economic, social and educational issues in rural communities (Fee, 1992). Then in 1909, to combat hookworm in the south, Rockefeller created the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease, and Wickliffe Rose was appointed as its Director (Fee, 1992). Rose's efforts to eradicate hookworm

were stymied by the lack of adequately trained public health workers coupled with part-time public health officers and private medical practitioners who did not support his efforts (Fee, 1992). Ultimately, Rose's experience led him to conclude that "a new profession of public health must be created, with full-time public health workers who had been specifically trained for the job, and whose loyalties would be committed to public health rather than to clinical medicine" (Fee, 1992, p. 4).

Over the next several years, the General Education Board of the Rockefeller Foundation took a leading role in the organization of professional public health education by holding conferences and providing a venue for discussions surrounding this issue. William H. Welch, who was the Dean of the Johns Hopkins School of Medicine, and Wickliffe Rose were asked to work together to develop a plan for a new school of public health. On May 27, 1915, the *Institute of Hygiene* report (now more commonly referred to as the *Welch-Rose Report*) was presented to and accepted by the General Education Board. Johns Hopkins University was later selected as the site for the new school of public health and given the name The School of Hygiene and Public Health. The Rockefeller Foundation continued its support of public health education by providing $267,000 for initial operations of the Johns Hopkins school (Fee, 1992).

Today, schools and programs of public health in the U.S. are responsible for educating the future public health workforce at multiple levels (bachelors, masters, doctoral, post-doctoral, certificate), generating new knowledge in research that ranges from basic laboratory to applied research, and providing service to their communities (Colgrove, Fried, Northridge, & Rosner, 2010; Rosenstock, Helsing, & Rimer, 2011).

At the master's level, an accredited MPH degree in the U.S. must include five core areas of knowledge: 1) biostatistics; 2) epidemiology; 3) environmental health sciences; 4) health services administration; and 5) social and behavioral sciences (CEPH, 2011a; CEPH, 2011b). In addition, students must have an opportunity to practice their skills during an internship that is relevant to their area of specialization, and students must demonstrate their skills and integration

of knowledge through a culminating experience (CEPH, 2011a; CEPH, 2011b). Accredited MPH programs in the U.S. must be at least 42-semester credit hours in length (CEPH, 2011a; CEPH, 2011b).

Public Health Workforce

The year 2000 enumeration study of the public health workforce concluded that there are nearly 450,000 salaried public health workers employed at the local, state and federal levels (Gebbie, Merrill, Hwang, Gebbie, & Gupta, 2003). This workforce is responsible for overseeing essential services such as disease surveillance, environmental safety (including water safety), immunization programs, and contemporary issues such as emerging infectious diseases and bioterrorism threats (Gebbie et al, 2003). Although the public health workforce plays a critical role in ensuring the health and wellbeing of the population, the U.S. Department of Health and Human Services, Health Resources and Services Administration estimates that only 20% of the nation's public health workforce has the formal education and training necessary to do their jobs effectively (cited in Kennedy & Baker, 2005). Additionally, a report from the Association of State and Territorial Health Directors predicted that on average 25% of the state public health workforce would be eligible for retirement in fiscal year 2016 (ASTHO, 2014).

Like Rose concluded in the early 1900s as he sought to combat hookworm, over a century later there continues to be a shortage of public health professionals with formal training in public health and yet challenges to the public's health continue to emerge, as the 2014 Ebola epidemic in West Africa demonstrates. Distance education is seen as one avenue to strengthen the public health workforce (Davis, Sollecito, Shay, & Williamson, 2004; Lloyd, 2000). Master of public health (MPH) programs that are delivered fully (or partially) online provide an opportunity for public health professionals who do not have formal training–and who cannot leave their job for two years–to get the academic training and credential that is needed to do their jobs effectively.

Executive MPH Program

This study examines the experiences of a group of working professionals who enrolled in an executive MPH program at an accredited school of public health located at an elite university in the U.S. The origins of the program date back to 1997 when a public health certificate program (half of the MPH degree) was developed. The full-degree program was started in 1999.

Program Structure

The structure of the executive MPH program uses a hybrid design (including both in-person and online instruction) and students must complete 42-semester credit hours. Each semester-length course begins and ends on campus over a "long weekend" from Friday morning through Sunday afternoon, during which each 2-credit course meets for 6 hours of instructional time.

The remaining coursework occurs during the 12-week distance-based sessions using the Blackboard education technology platform. Blackboard is a course management system that is maintained at the university level. It has tools including course content areas, discussion forums, wikis, blogs, group areas, and grade books that allow faculty to deliver course material and assess student learning in a collaborative and interactive manner. This mixed method approach is the method of choice because it provides the convenience and interactivity of online learning with the engagement of face-to-face instruction.

For students who are traveling to campus from outside the metropolitan area, the program has developed a relationship with a local hotel that provides a block of rooms at an affordable cost, free WIFI, and shuttle to and from campus. This also provides an opportunity for out-of-town students to connect with each other outside of class.

Curriculum

The executive MPH curriculum requires students to take six required core courses (five of which are mandated by the public health accrediting body and one of which is a school requirement) and track courses in one of three areas: 1) Applied Epidemiology; 2) Applied Public

Health Informatics; and 3) Prevention Science. A fourth area, Healthcare Outcomes was discontinued in fall 2013. In addition, all students take coursework that includes the following competencies: public health informatics, evaluation, surveillance, and public health advocacy or ethics. Students complete a 2-credit practicum under the guidance of a site supervisor and a culminating credit-bearing thesis under the guidance of a faculty member. All courses are 2-credit hours each. A student taking a full load of courses takes 6 hours of credit each semester and can complete the degree in seven semesters. The executive MPH curriculum meets all of the requirements of the accreditation body for graduate programs in public health.

Program Orientation

In addition to a one day in-person orientation, all students participate in a ten day[1] online orientation course, PRS 500D: Strategies and Resources for Online Learning (0 credits). The course which is comprised of seven assignments, orients students to the design and structure of program courses, provides instruction on course navigation and use of Blackboard tools, and simulates activities that students will encounter in their academic courses. As of fall 2010, the orientation course is graded on a pass/fail basis and shows up on the student's transcript.

Staffing

Oversight for the executive MPH program's development, planning and evaluation is provided by the chair, associate chair for academic affairs, and associate directors of each track. Guidance is also provided by the school's administrative staff (dean, associate dean for applied public health, executive associate dean for academic affairs, executive associate dean for finance and administration, and associate dean for admission and student affairs).

[1] In fall 2015, the online orientation was expanded to 14 days.

The program is staffed[2] with a part-time chair (0.40-0.75 FTE program administration; 0.20 FTE teaching), part-time associate chair for academic affairs (0.35-0.75 FTE), part-time faculty practicum advisor (0.50 FTE), full-time academic advisor (1.0 FTE), four full-time instructional designers (4.0 total FTE), and part-time administrative support (0.75 FTE). When technology assistance is needed, the instructional designers receive guidance from the school's media development or client services teams. Each track has a faculty member who serves as the associate director and is responsible for oversight of that track (0.10 FTE each) (e.g., admissions, curricular issues, faculty selection, and student advisement for discipline-specific issues).

Tuition

Tuition and fees for the executive MPH program are determined on a per credit hour basis (e.g., in 2015-2016, tuition is $1700 per credit hour[3]). This tuition structure differs from the traditional MPH program, where students taking 9 or more credits per semester pay a flat fee per semester based on the length of their degree program (3 or 4 semesters). In the executive MPH program, students take 6 credits or less per semester and therefore, the tuition structure is based on a per-credit-hour model. Students are assessed the following university fees: Recreation and Athletic fee; Activity fee; Mental Health and Counseling fee; and Transcript fee (as of 2013; one-time only). In addition, the school assesses a one-time Administrative or Orientation fee to each incoming student.

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[2] Starting in September 2014, the chair is 0.20 FTE for teaching and 0.30 FTE for administration. In January 2015, an associate chair for academic affairs was hired (0.35 FTE until June 2015 when this position became 0.75 FTE). In April 2015, the four instructional designers dropped to 3.5 FTE.

[3] Tuition was $1200/credit hour in 2010-2011; $1260/credit hour in 2011-2012; $1320/credit hour in 2012-2013; and $1500/credit hour in 2013-2014. These years represent the starting years for the participants in my study.

A typical fulltime executive MPH student, who started in the fall 2015 semester, receives no scholarship support, and completes the program in seven semesters, will spend approximately $73,330[4] to earn his or her MPH degree. This includes tuition and fees and does not include books or travel for those who live outside the metropolitan area.

Student Body

The executive MPH student body is a diverse group of individuals, representing many different disciplines. By way of example, the cohort that began the program in 2015 had degrees in numerous disciplines: anthropology, art/visual studio, biochemistry, biology, biotechnology, business administration, chemistry, communications, community health, computer and information sciences, economics, education, engineering, English, finance, government, health administration, health education, history, human and organizational development, international affairs, international business, Italian, journalism, literary studies, management, medicinal chemistry, medicine, microbiology, molecular biology, nursing, nutritional sciences, osteopathic medicine, pharmacy, philosophy, physical therapy, political science, psychology, public health, religion, research methods, sociology, Spanish, technology, veterinary medicine, and writing and rhetoric. The average age for this group was 36 years and the group had an average of 9 years of work experience prior to enrollment.

Faculty

Executive MPH courses are based in adult learning theory and principles. As such, they are structured to be highly interactive and involve frequent communication between faculty and students and therefore, the selection of faculty is important. As a program for working professionals, the program seeks out faculty who represent both academic public health and

[4] Approximate cost is $53,783 for a student who started in fall 2010; $57,113 for a student who started in fall 2011; $62,131 for a student who started in fall 2012; and $67,918 for a student who started in fall 2013.

public health practice. The current faculty members who teach in the program include core school faculty and a number of others with adjunct or affiliated faculty appointments who work at public health agencies. This approach allows students to learn from individuals who are leaders in their fields based on their academic preparation and/or extensive experience in the field.

Table 1 includes additional program metrics including admissions and enrollment data, number of faculty, courses offered and credits taken for the four years of the study.

Table 1

Executive MPH Program Metrics (Admissions, Enrollment, Faculty Numbers, Courses Offered and Credits Taken)

Program Metrics	2010-2011	2011-2012	2012-2013	2013-2014
Admissions Data				
No. of Applications	86	131	114	112
No. of Offers of Admissions (acceptance rate)	71 (83%)	99 (76%)	89 (77%)	96 (86%)
No. Enrolled (matriculated rate)	45 (63%)	66 (67%)	55 (62%)	63 (66%)
No. of Students Enrolled in Classes				
Fall Semester	119	144	156	178
Spring Semester	108	124	132	142
Summer Semester	83	101	117	119
No. of Faculty in Teaching Program (unduplicated)	35	37	42	42
No. of Courses Offered	43	48	53	52
No. of Credit Hours Taken	1539	1797	1999	2083

Source: Internal program documents

Purpose of Study

The purpose of the current inquiry is to examine predictors of student success in a distance-learning master of public health (MPH) program, described above, at an elite institution in the southeastern part of the U.S. As of September 2015, there are 56 Council on Education for Public Health (CEPH)-accredited schools of public health and 108 CEPH-accredited programs of

public health[5] (CEPH, 2015a). Of these, 38 of 56 (68%) schools and 29 of 108 (27%) programs offer the MPH degree in a hybrid, executive, and/or 100% online format (CEPH, 2015b).

As the number of students participating in distance learning courses and programs of study grow, it is important to know more about the predictors of student success. This is especially true in public health education where only 20% of the workforce is estimated to have formal education in field (cited in Kennedy & Baker, 2005).

A better understanding of the student experience, will allow institutions of higher education–including schools and programs of public health–to target those individuals who are more likely to succeed; and provide resources to those students who have enrolled but are at risk for not completing their programs of study.

Research Questions and Study Propositions

This study used a mixed methods approach which is further described in Chapter 3. The overarching research question for the quantitative phase of the study was *What are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing?*

a) Good standing: Individuals in good standing are those who are still enrolled, on a current leave of absence[6], or have graduated, at the time of data analysis.

[5] A "program" of public health refers to a graduate program that is located outside of a school of public health.

[6] The study population is comprised of working professionals who are in an executive master of public health (MPH) program. These individuals are juggling family, work, and school and have complicated lives that can be disrupted by personal and work-related issues. When this happens, they sometimes take a leave of absence from school with the intention of returning to finish their degree.

b) Bad standing: Individuals in bad standing are those who have withdrawn from the program, were excluded from the program, or have not been enrolled for more than three semesters and have unknown status at the time of data analysis.

The following propositions were explored in the qualitative phase of the study:

- Some individuals feel that online or hybrid programs of study are easier than traditional face-to-face programs. What were the students' expectations of an online/hybrid program? After completion of 5 semesters, were the students' expectations confirmed, or, if not, how did they differ?
- To be successful in an online or hybrid program of study, students must have a set of skills prior to enrollment. What skills are needed to be successful (computer literacy, time management, other) in an online or hybrid program of study?
- To be successful in an online or hybrid program of study, a supportive environment outside class may help, while external difficulties and challenges may create problems. What positive and negative external factors affected students' experience (e.g., financial constraints, family support and responsibilities, social support, life events – celebratory or crisis)?
- To be successful in an online or hybrid program of study, social skills that allow integration with faculty, staff and colleagues may be crucial. How did students socially integrate with faculty, program staff, and colleagues?
- For success, certain academic infrastructure elements may be necessary. What were students' experience with the orientation course? Did students' learning preference align with program's teaching style?

Conceptual Framework

The conceptual framework for the current inquiry is rooted in the persistence literature, in particular the persistence models developed by Tinto (1975), Pascarella (1980), Bean and

Metzner (1985), and Rovai (2003). In 1975, Tinto published a model which explained persistence in higher education as a function of how well a student and institution "fit." Tinto's model focused on social and academic integration and incorporated individual student characteristics, student experiences prior to college, and experiences at college (Tinto, 1975).

Pascarella and colleagues further explored the role of informal interactions between students and faculty and concluded that informal contact between students and faculty is a predictor of college persistence (Pascarella, 1980; Pascarella & Terenzini, 1977). Pascarella's 1980 model for research on student-faculty informal contact states that students' background characteristics, institutional factors, other college experiences, and informal contact with faculty all interrelate to affect educational outcomes and ultimately persistence or withdrawal decisions (Pascarella, 1980).

In 1985 Bean and Metzner published a model that sought to explain attrition in the nontraditional student population. Based on the work of Tinto, the Bean and Metzner (1985) model included four foci: a) academic variables, b) background and defining variables, c) environmental variables, and d) academic and psychological outcomes while at college.

To explain persistence in distance learning environments, Rovai (2003) created a composite model (Figure 1) that includes both the work of Tinto (1975) and Bean and Metzner (1985).

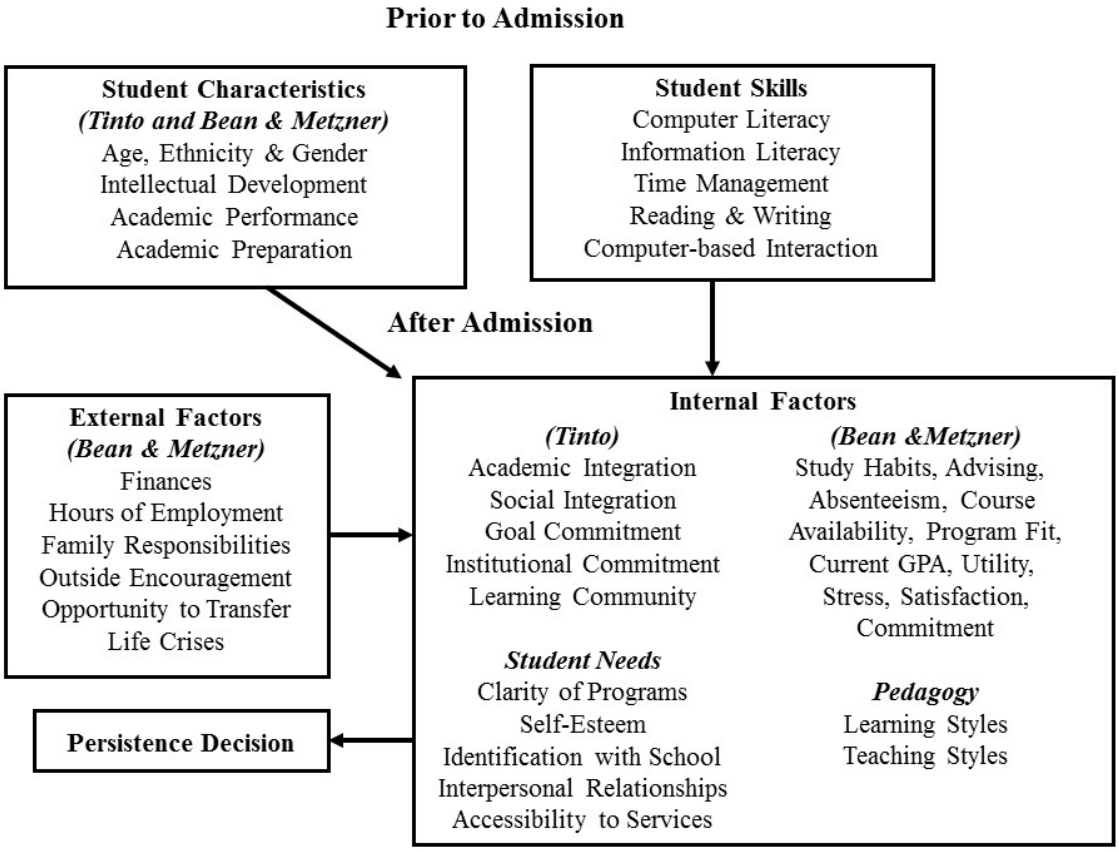

Figure 1. Composite Persistence Model by Rovai (2003)

In the Rovai (2003) model, a student's persistence decision is affected by factors that are present prior to admission (student characteristics, student skills) and others that are present after admission (external factors, internal factors). Student characteristics that affect the persistence decision include student demographics (e.g., age, gender, ethnicity), intellectual development, academic performance, and academic preparation (Rovai, 2003). The model also includes skills that students should possess prior to admission including computer and information literacy, time management, reading and writing skills, and computer-based interaction skills (Rovai, 2003). Once students are admitted to a program of study, external factors such as finances, employment, family responsibilities, social support, and life crises can affect their ability to complete the program (Rovai, 2003). The final component of the Rovai (2003) model is a myriad of internal factors that include academic and social integration, institutional commitment, presence of a

learning community, study habits, advising, program fit, current GPA, utility, stress, satisfaction, clarity of programs, self-esteem, identification with school, interpersonal relationships, accessibility of services, and match between pedagogy and learning style.

Using the Rovai model as a conceptual framework is both a limitation and opportunity. The model was developed for undergraduate populations and yet the current study is examining student success in a population of working professionals who are enrolled in a master's degree program. This provides an opportunity to extend the model to a new population.

Summary

Using an explanatory sequential design, this study used a mixed methods approach to examine the predictors of student success and student experiences in an online executive master of public health (MPH) program. This chapter provided an introduction to the study. Chapter 2 reviews the related literature. Chapter 3 outlines the study methodology. Chapters 4 and 5 present the quantitative and qualitative findings. Conclusions and discussion are presented in Chapter 6.

CHAPTER 2

LITERATURE REVIEW

The literature included in this chapter focuses on different approaches to defining "success" and then explores predictors of success using Rovai's four categories (student characteristics, student skills, external factors, internal factors) as an organizing structure.

Although much has been written about predictors of success in traditional postsecondary education, this chapter focuses on the distance education environment. As seen in Chapter 1, this environment is growing as evidenced by the increase in students taking distance-based classes (Allen & Seaman, 2014) and the multitude of methods being used to deliver this instruction (Hill, 2012). Since this topic is rapidly evolving, I made the decision to exclude literature that was published prior to 2000.

Definitions of Success

The online and distance learning literature defines success from both the course and program perspective.

Course Level

Most of the literature defines success as it relates to course completion and/or course performance. Of the 41 articles included in this chapter that look at predictors of success, 31 (76%) define success at the course level[7].

By way of example, Cochran, Campbell, Baker, and Leeds (2014) examined attrition and retention within single courses by looking at those students who completed or withdrew from online courses. Like Cochran et al. (2014), others have looked at course completion without

[7] Of the 41 articles, 31 (76%) define success at the course level and 10 (24%) at the program level.

considering course performance (Doherty, 2006; Lee, Choi, Kim, 2013; Levy, 2007; Muse, 2003; Park & Choi, 2009). Kemp (2002) also looked at course completion but she studied course completion of the students' first undergraduate course at their current institution.

Others have defined success by looking at course performance–either course grades (Ali & Leeds, 2009; Aragon & Johnson, 2008; Cheung & Kan, 2002; Wojciechowski & Palmer, 2005) or GPA (DeTure, 2010; Fair & Wickersham, 2012). When they examined student success, Yukselturk and Bulut (2007) created their own metric and used a student success score which was based on the scores of three course assignments.

Program Level

Unlike the previous literature, which focused on success at the course level, Patterson and McFadden (2009) studied newly matriculated students in two master's degree programs and examined how mode of delivery (campus-based, online) affected program dropout relative to the students' academic and demographic characteristics. Others have also looked at success from this broader program perspective (Boston, Ice, & Gibson, 2011; Perry, Boman, Care, Edwards, & Park, 2008; Pierrakeas, Xenos, Panagiotakopoulos, & Vergidis, 2004; Terrell, 2005; Willging & Johnson, 2009).

Specific examples include Boston et al. (2011) who examined factors related to program retention in undergraduates at a university that primarily serves the military and others in public service. Pierrakeas et al. (2004) looked at reasons why students dropped out of two programs of study (one bachelors, one masters). Perry et al. (2008) examined reasons why online graduate students withdrew from a nursing and health studies program. Willging and Johnson (2009) also examined a graduate population to determine why students dropped out of an online global human resources development master's degree program. Terrell (2005) looked at the relationship between student characteristics and learning style on attrition in an online doctoral program.

My study follows this latter line of inquiry and studies success as defined by program completion or progress towards program completion. As discussed in Chapter 1, the public

health workforce plays an important role in protecting the health of the public yet much of the workforce does not have formal education in field. A better understanding of the student experience in the executive MPH program will allow program administrators to target individuals who are more likely to succeed; and provide resources to those at risk for non-completion. As more individuals successfully complete their program of study, the public health workforce is infused with educated practitioners who are trained to address the myriad of public health challenges that face our communities. It is therefore important for my study to focus on success at a program level versus at the individual course level.

Predictors of Success

Irrespective of whether the researchers used a course or program perspective to define success, this section looks at predictors of success. Using the Rovai model as an organizational frame, the literature examining predictors of success is organized by student characteristics, student skills, external factors, and internal factors.

Student Characteristics

The literature that examines student characteristics looks at gender, age, race/ethnicity, previous academic performance, and academic preparation.

Gender. While some studies have shown that gender has a significant effect on student performance with women performing better than men (Aragon & Johnson, 2008; Cheung & Kan, 2002; Cochran et al., 2014; Doherty, 2006; Koch, 2005; Packham, Jones, Miller, & Thomas, 2004; Willging & Johnson, 2009), others have found that gender has no effect on a student's success (Kemp, 2002; Levy, 2007; Menager-Beeley, 2001; Niemi & Gitin, 2012; Park & Choi, 2009; Patterson & McFadden, 2009; Pierrakeas et al., 2004; Terrell, 2005; Wojciechowski & Palmer, 2005; Yukselturk & Bulut, 2007).

Age. When the effect of age on student success is examined, the results are also mixed. While some have determined that older students were more likely to drop out (Niemi & Gitin, 2012; Patterson & McFadden, 2009; Menager-Beeley, 2001), others found the opposite and

concluded that the successful students were older (Doherty, 2006; Koch, 2005; Muse, 2003; Valasek, 2001; Wojciechowski & Palmer, 2005). Packham et al. (2007) found that successful students were between 31-50 years and that after 50 years, students were more likely to withdraw from the program being studied. In a study that looked at two groups of students (undergraduates, graduates), Pierrakeas et al. (2004) concluded that with the undergraduate students, the percent of dropouts was higher with the younger students but with the graduate students, the percent of dropouts was higher with the older students. Still others found no effect with age (Aragon & Johnson, 2008; Cheung & Kan, 2002; Levy, 2007; Cochran et al., 2014; Park & Choi, 2009; Terrell, 2005; Willging & Johnson, 2009; Yukselturk & Bulut, 2007).

Race or ethnicity. Like the previous student characteristics, when race and/or ethnicity are examined, the results continue to be varied. In many studies, there is no association between student success in the online environment and race and/or ethnicity (Aragon & Johnson, 2008; Cochran et al., 2014; Menager-Beeley, 2001; Patterson & McFadden, 2009; Terrell, 2005), although differences have been found in some studies. Koch (2005) found that whites performed better than Asians and Asian Americans, who outperformed African Americans. Willging and Johnson (2009) found that minorities other than blacks, were more likely to dropout as compared to whites. They also found that whites and blacks dropped out at similar rates (Willging & Johnson, 2009).

Previous academic performance. The literature on previous academic performance includes metrics related to highest level of education, prior experience with online courses, and previous GPA. While Park and Choi (2009) found that educational background (high school education only, some college, graduate or higher) was not associated with success, Packham et al. (2004) found that successful e-learners had no previous higher education degrees. Niemi and Gitin (2012) had a similar finding and concluded that the risk of dropping out was greater for those with previous college experience. When high school GPA is examined, the literature indicates that successful students had a higher GPA than unsuccessful students (Dupin-Bryant,

2010; Morris, Wu, & Finnegan, 2005). Although Kemp (2002) found no significant difference related to prior experience with distance learning courses, a number of other studies have concluded that successful students were more likely to have previous experience with online courses (Dupin-Bryant, 2010; Muse, 2003; Osborn, 2001; Wojciechowski & Palmer, 2005).

Academic preparation. There are a number of studies, where students stated that the reason they dropped out of a course or program was because they lacked the pre-requisite knowledge, the course or program was too difficult, and/or they could not understand the learning materials (Boston et al., 2011; Nash, 2005; Pierrakeas et al., 2004; Willging & Johnson, 2009; Xenos et al., 2002). These responses suggest that the students were not academically prepared for the online course or program in which they were enrolled and subsequently dropped.

Other. Niemi and Gitin (2012) found that those who were married and those who were in the military were more likely to be successful. In his study of online master's degree students, Levy (2007) found no difference between completers and non-completers based on residency status (U.S. citizen, U.S. resident, international). Willging and Johnson (2009) found that international students were more likely to dropout; and that there was no difference between in-state and out-of-state students (although they commented that their small sample size might skew the results).

Student Skills

The literature that examines skills that students should possess prior to admission includes computer and technology skills, time management skills, self-regulation skills, and academic skills.

Computer and technology skills. When discussing reasons for non-completion, Aragon and Johnson (2008) report that lack of technology skills (e.g., computer, Internet) was one of the reasons. Similar results are documented by others (Fair & Wickersham, 2012; Muse, 2003; Willging & Johnson, 2009). Dupin-Bryant (2010) found that three specific computer trainings (searching the Internet, operating systems and file management, Internet applications) were

related to online course completion. In addition to computer and technology skills, the literature also shows that successful students must be confident in their computer use (Muse 2003; Osborn, 2001; Valasek, 2001). In an unexpected finding, Harrell and Bower (2011) found that an increase in basic computer skills was associated with course withdrawal.

Time management skills. Lack of time management skills is one of the reasons cited for lack of success (Doherty, 2006; Nash, 2005; Nichols, 2010). Stated from a positive perspective, successful students are able to organize themselves and manage their time (Fair & Wickersham, 2012; Lee et al., 2013; Morris & Finnegan, 2008; Valasek, 2001).

Self-regulation skills. Self-regulation refers to how students regulate their learning process and includes the ability to set goals, adopt strategies for achieving goals, monitor progress toward goals, restructure physical and social context to enable the achievement of goals, manage time, and self-evaluate methods being used to achieve goals (Zimmerman, 2002). Self-regulation has a significant effect on student success (Lee et al., 2013; Yukselturk & Bulut, 2007). Although she does not use the term self-regulation, Castles (2004) talks about successful students having a strategic approach to learning, which is a consistent with the self-regulation literature.

Academic skills. Wojciechowski and Palmer (2005) found that ASSET Reading scores and ACT English scores were positively associated with better student performance. Fair and Wickersham (2012) used the Readiness for Education At a Distance Indicator (READI) assessment to determine a student's potential for success. The READI assessment includes six areas (personal attributes, learning styles, reading rate and recall, technical competency, technical knowledge, typing speed) that students should score well on to be successful in distance learning environments (Fair & Wickersham, 2012). Fair and Wickersham (2012) found no significant differences between READI scores and final course grades. When individual sections of the READI assessment were analyzed, technical knowledge and typing speed were the only sections that came close to being statistically significant (Fair & Wickersham, 2012). Morris, Wu, and Finnegan (2005) found that math ability was a predictor for completion in the online environment

and Menager-Beeley (2001) concluded that those with a lower prior grade in English, were more likely to drop out.

External Factors

There are a number of external, or environmental, factors which have the potential to affect student success. Those that are explored here include family and social support, employment, finances, and time commitment.

Family and social support. Although some have found no significant difference between course completers and non-completers related to family, personal, and home commitments (Kemp, 2002; Lee et al., 2013), many others have found that family and social support is an important factor in student success. By way of example, Park and Choi (2009) found a statistical difference between dropouts and those who persisted with respect to the individuals' perceptions of family and organizational support. When the reasons for program withdrawal were examined, life circumstances including health problems (self, family), more time needed with family and friends, and death of a family member were cited (Aragon & Johnson, 2008; Castles, 2004; Nichols, 2010; Perry et al., 2008; Pierrakeas et al., 2004; Willging & Johnson, 2009; Xenos et al., 2002).

Employment. When looking at employment status or other employment metrics (support from work, hours worked) some found no difference between completers and non-completers (Lee et al., 2013; Levy, 2007; Pierrakeas et al., 2004). More common is Kemp's (2002) finding that work commitments are highly predictive of non-completion. Perry et al. (2008) and numerous others found that career changes, increased workloads, and competing pressures of work and school, were reasons for course or program withdrawal (Aragon & Johnson, 2008; Packham et al., 2004; Pierrakeas et al., 2004; Xenos, Pierrakeas, Pintelas, 2002; Willging & Johnson, 2009).

Packham et al. (2004) concluded that successful e-learners did not work and that those who were self-employed were likely to withdraw. Willging and Johnson (2009) found that those

who were employed as directors, managers, or coordinators, were least likely to drop out of the online program. Students who worked more hours were moderately more successful in their class (Muse, 2003). In an unexpected finding, Osborn (2001) found that those students at-risk for non-completion worked fewer hours than their counterparts.

Finances. Common sense would suggest that there is an association between student success and financial concerns yet the literature is limited and has mixed findings. Aragon and Johnson (2008) found no association between course completion and financial aid eligibility although Morris, Wu, and Finnegan (2005) found that availability of financial aid was a predictor of course retention. In her study on course completers and non-completers, Kemp (2002) found no significant difference related to finances but in other studies, when reasons for program withdrawal were explored, financial pressures were often one of the stated reasons (Perry et al., 2008; Willging and Johnson, 2009). Individuals who had larger financial contributions from their families, were more likely to drop out than those individuals whose families contributed less money towards their education (Niemi & Gitin, 2012). Cochran et al. (2014) found that students with non-need-based loans were less likely to withdraw than students without these loans although when they analyzed subsets of their study participants, the researchers found that among the students who received a Hope scholarship, Pell recipients, older students, males, and black students were less likely to withdraw from online courses than their counterparts that did not have scholarships.

Time commitment. Lack of time, without stating whether it was personal or work-related, is another reason for non-completion and withdrawal from online courses or programs (Boston et al., 2011; Herbert, 2006; Packham et al., 2004).

Internal Factors

Internal factors that might influence student success include academic and social integration, academic status and performance, orientation sessions, locus of control, satisfaction and relevance, and learning style.

Academic and social integration. Interactions with faculty and tutors has a significant effect on student performance (Castles, 2004; Cheung & Kan, 2002). In fact, when students were asked why they did not complete a course or program, lack of faculty or tutor responsiveness was one of the reasons given (Aragon & Johnson, 2008; Pierrakeas et al., 2004; Xenos et al., 2002; Willging & Johnson, 2009). Other reasons were course related (quality of course design and delivery, group work is too hard) or institution related (advisement, enrollment procedures) (Aragon & Johnson, 2008; Willging & Johnson, 2009).

Good interactions with teaching staff can have a positive effect on student completion (Nichols, 2010). In an effort to provide quality service to students, UCLA created a "concierge service" for its online courses where a course manager handles technical issues and takes responsibility for contacting students who are not participating in the course (Frankola, 2011).

The Community of Inquiry (CoI) framework provides a way to study the dynamics of online communities of inquiry. The framework identifies three types of presence (cognitive, social, teaching) and the relationships among them. Cognitive presence refers to the ability of the learners to construct meaning; social presence is the ability of the learners to project personal characteristics into the community and identify themselves as "real" people; and teaching presence relates to the design and facilitation of the educational experience (Garrison, Anderson, & Archer, 1999). When Boston et al. (2014) used the CoI framework to determine if CoI indicators can predict a student's likelihood to remain enrolled in an online program, they found that 88% of the social presence indicators were significant predictors of re-enrollment in the subsequent semester.

Academic status and performance. The literature demonstrates that academic class (freshman, sophomore, junior, senior, graduate) is related to course completion and those who do not complete are in a lower level (Cochran et al., 2014; Dupin-Bryant, 2010; Levy, 2007).

Findings related to the relationship between the number of courses taken and success is mixed. Most studies show that the more credits or courses taken, the more successful the student

was (Aragon & Johnson, 2008; Boston et al., 2011; Doherty, 2006; Koch, 2005) but the more credit hours in the current semester, the less likely the student was to pass the course (Doherty, 2006; Osborn, 2001).

The role of current GPA also has inconsistent findings. Some have found that successful students have a higher GPA (Aragon & Johnson, 2008; Boston et al., 2011; Harrell & Bower, 2011; Muse, 2003; Wojciechowski & Palmer, 2005) yet others have found no relationship between GPA and student success (Levy, 2007; Patterson & McFadden, 2009). Niemi and Gitin (2012) concluded that if a student's performance declines over time, the student is more likely to dropout.

Neuhauser (2010) found that there was no significant difference in the academic performance (assignment grades, final grades) between online and face-to-face sections of the same course. Pierrakeas et al. (2004) found that having handed in half of the required assignments makes it harder for students to drop out. It is not surprising that individuals who have previously withdrawn from online courses are more likely to be unsuccessful (Cochran et al., 2014; Wojciechowski & Palmer, 2005). The literature also shows that successful students are active participants in their courses and are engaged with greater frequency and time than those who are not successful (Finnegan, Morris, & Lee, 2008; Morris, Finnegan and Wu, 2005; Valasek, 2001).

Orientation sessions. Orientation sessions are one way that online courses or programs of study can build learning communities and provide students with needed information about the course/program thereby reducing confusion about course set-up and expectations (Morris & Finnegan, 2008). While online students agree that an orientation prior to the start of a course or program is important (Bozarth, Chapman, & LaMonica, 2004; Nash, 2005), it is also critical to remember that online students are diverse and therefore, orientation programs need to be tailored for the individual students (Wozniak, Mahony, Pizzica, & Koulias, 2007).

Participation in an orientation session was associated with successful completion of online courses (Ali & Leeds, 2009) and higher course grades (Wojciechowski & Palmer, 2005).

Although there is limited literature that looks at the impact of orientation sessions on online courses or programs from an empirical perspective, there are several descriptive accounts that are useful to examine. Orientation programs might include components such as program and institution information (staff and specific duties, how program works, library and other ancillary services), technology information (basic skills, introduction of instructional media), methods of communication, time management skills, and community building opportunities with course/program staff, faculty and other students (Bozarth et al., 2004; Motteram & Forrester, 2005; Scagnoli, 2001).

Locus of control. Locus of control (LOC) has also been examined to determine its effect on student success. LOC refers to where an individual attributes the outcome of an event (Rotter, 1966). Internal LOC is when an individual believes that an outcome is contingent on his or her own decisions and efforts; external LOC is when the individual believes the outcome is contingent on fate or external circumstances (Rotter, 1966). Trice (1985) created an academic LOC scale for use with college students. Although some have found that academic LOC was not significantly different between course completers and non-completers (Levy, 2007; Yukselturk & Bulut, 2007), others have found that students with internal LOC is a predictor of course retention (Lee et al., 2013; Joo, Joung, & Sim, 2011; Morris, Wu, & Finnegan, 2005).

Satisfaction and relevance. Park and Choi (2009) found a statistical difference between those who dropped out and did not drop out based on course satisfaction and relevance. Other studies also concluded that students were more likely to complete if they were satisfied–and vice versa (Herbert, 2006; Levy, 2007). Students who see the relevance of their learning experiences are also more successful (Cheung & Kan, 2002; Menager-Beeley, 2001).

Learning style. It is logical that a mismatch between learning style and teaching style would be a reason for a student's lack of success but the literature is mixed on this issue. When

students were asked why they did not complete a course, the incongruence between learning and teaching styles is one reason given (Aragon & Johnson, 2008; Perry et al., 2008). Fair and Wickersham (2012) found that being visual and solitary learners was identified by study participants as having an impact on course performance. In addition, Harrell and Bower (2011) found that students with an increased score for auditory learning style were more likely to withdraw. Other studies have found no association between learning style and student success (Doherty, 2006; Neuhauser, 2010; Terrell, 2002, 2005; Yukselturk & Bulut, 2007).

Discussion of the Literature

Range of Studies and Limitations of the Literature

Although all of the studies included in this chapter address some aspect of student success in the online environment, they are diverse in questions of inquiry, methods, and populations. Examples of the diversity of questions include:

- What impact does attending the face-to-face orientation have on course retention? (Ali & Leeds, 2009)
- Do age, gender, GPA, number of hours currently worked, years since last college course, number of previous distance-learning courses taken, educational level, and number of credits in the current semester significantly affect successful completion of Web-based classes? (Muse, 2003)
- What characteristics do successful students (unsuccessful students) identify as contributors to their performance in an online communication course? (Fair & Wickersham, 2012)
- What is the relationship of student participation to student persistence and achievement online? (Morris, Finnegan, & Wu, 2005)

- What are the learning preferences and styles of the students in the two sections (online, face-to-face) and are there significant differences between the sections? (Neuhauser, 2010)
- Are there factors that can predict the likelihood of a student dropping out of an online program? (Willging & Johnson, 2009)

The methods required to answer the questions posed are varied. Most of the identified studies were quantitative in nature and used a variety of analytic techniques. Sample sizes, when disclosed, varied from 12 to 28,877. In one case, the study analyzed 76,866 "student performances" (Koch, 2005). Although there were some very large sample sizes, those were the exception.

Studies were frequently based on a single course (or set of courses) and were most often conducted with undergraduate populations, although they did range from associate to doctoral students. Institutions included community colleges, large state and private universities, university systems, and institutions that are strictly online. While most of the studies were conducted within the U.S., some were conducted in international settings (Canada, Greece, Hong Kong, Ireland, Korea, New Zealand, Turkey, Wales).

These differences in questions, methods, and populations make it difficult to compare study to study. Additionally, the studies do not reach consensus on what factors predict student success.

Findings from the Literature

As has been previously illustrated, success is defined differently in the literature. Additionally, the existing literature does not paint a coherent picture of predictors of student success in the online environment.

When the literature related to student characteristics is examined, there are few consistent results. For every study that demonstrates the importance of a particular characteristic, there is another that shows the opposite. The student skills literature paints a more consistent picture of

the successful student as an individual who has computer, and time management and self-regulation skills. The literature also suggests that the successful online student is one who is academically prepared for his or her course or program of study. Although the literature review shows mixed results with some of the external factors examined, the importance of family and social support to online students is clear–as is support from the work environment. External factors that are not as well understood are related to finances. When internal factors are examined, the importance of academic and social integration is clear. The literature also concludes that it is important to orient students prior to the start of an online course or program. While successful students are those who are satisfied with their course or program and see the relevance of what they are learning, it is surprising that the literature on the effect of locus of control and learning/teaching styles is not more consistent.

Implications for Current Research

This literature review has informed my research in several ways. First it has provided me with an understanding of the range of studies that currently exist related to student success in online environments. Based on my reading, I now understand that the majority of the literature focuses on success at the course (versus program) level. Although some studies examined graduate students, most looked at the experiences of community college and bachelor's level students. My study focuses on a population that was not seen in the literature, which is working adults enrolled in a hybrid master of public health program.

Based on the literature review, I believe that Rovai's model provides an appropriate framework for my study. I was able to map other studies back to Rovai's constructs (student characteristics, student skills, internal factors, external factors) and many of the studies looked at variables that I also examined. When there were inconsistent findings in the literature (e.g., student characteristics), my study adds an additional voice to the mix of findings. In other areas, where I found consistent findings (e.g., family, social, and work support; academic and social integration), my study allows me to explore the importance of these issues in my population.

This review of the literature has therefore provided me with areas of inquiry to explore in order to see where there is alignment with current scholars' findings.

Summary

This chapter reviewed the literature related to both the definition of student success and predictors of success in a distance education environment. The literature was mapped to the four constructs found in Rovai's model: a) student characteristics, b) student skills, c) external factors, and d) internal factors.

CHAPTER 3

METHODS

I used a mixed methods approach with this study because more than one data source was needed to fully understand predictors of student success and the student experience in an online hybrid program of study (Creswell & Plano Clark, 2011). This chapter describes the research design, research questions and propositions, data sources, data collection, and data analysis plan for each phase of the study. In addition, issues related to institutional review and study limitations are discussed.

Research Design

Mixed Methods Approach

The current inquiry used a mixed methods explanatory sequential design where the quantitative analyses informed subsequent qualitative interviews (Figure 2).

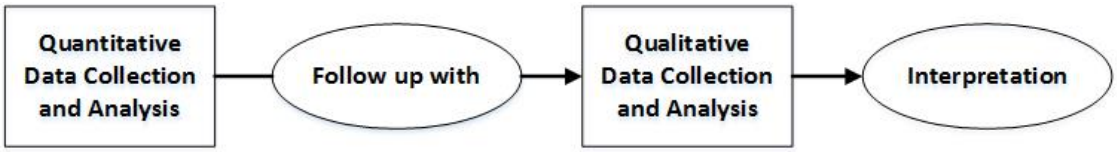

Figure 2. Explanatory Sequential Design (Creswell & Plano Clark, 2011, p. 69)

This approach allowed the quantitative portion of the study to identify subgroups of interest which were then further studied. The use of results to better inform or develop the next phase of a study is one of the reasons to use a mixed methods approach (Bryman, 2006; Greene, Caracellli, & Graham, 1989; Hesse-Biber, 2010). Drawing on typologies developed by Greene, Caracelli, and Graham (1989) and Bryman (2006), additional reasons to use a mixed methods approaches for the current study include a) findings from quantitative methods can be used to corroborate qualitative findings and vice versa; b) results from qualitative methods can be used to provide additional clarification and explanation of quantitative results, especially if there are unexpected

results; and c) the combination of quantitative and qualitative results can provide a comprehensive account of a phenomenon.

Explanatory Sequential Design

As illustrated in Figure 2, the explanatory sequential design begins with a quantitative phase that is followed by a qualitative phase. The purpose of this qualitative phase is to explain the initial results in more depth.

In the current study, I created a dataset of the individuals who began the executive master of public health (MPH) program during a four year period (2010-2013). For each individual, variables were included related to student traits, program major, timing of application submission, prior academic achievement, financial commitment, online orientation performance, and fifth semester academic metrics. For the quantitative phase of my study, a regression analysis was conducted on the dataset described above. These results were used to identify subgroups for further exploration. I then used semi-structured interviews during the qualitative phase to follow-up on the quantitative results within the identified subgroups, which is consistent with the explanatory sequential design (Creswell, 2014; Creswell & Plano Clark, 2011). In addition, I used the qualitative phase to explore constructs that were not available in the quantitative data.

Conceptual Model

The Rovai model, explained in Chapter 1, provided the conceptual framework for this study. Rovai's model has been adapted to illustrate the individual constructs that were investigated and identifies which are quantitative or qualitative measures (Figure 3).

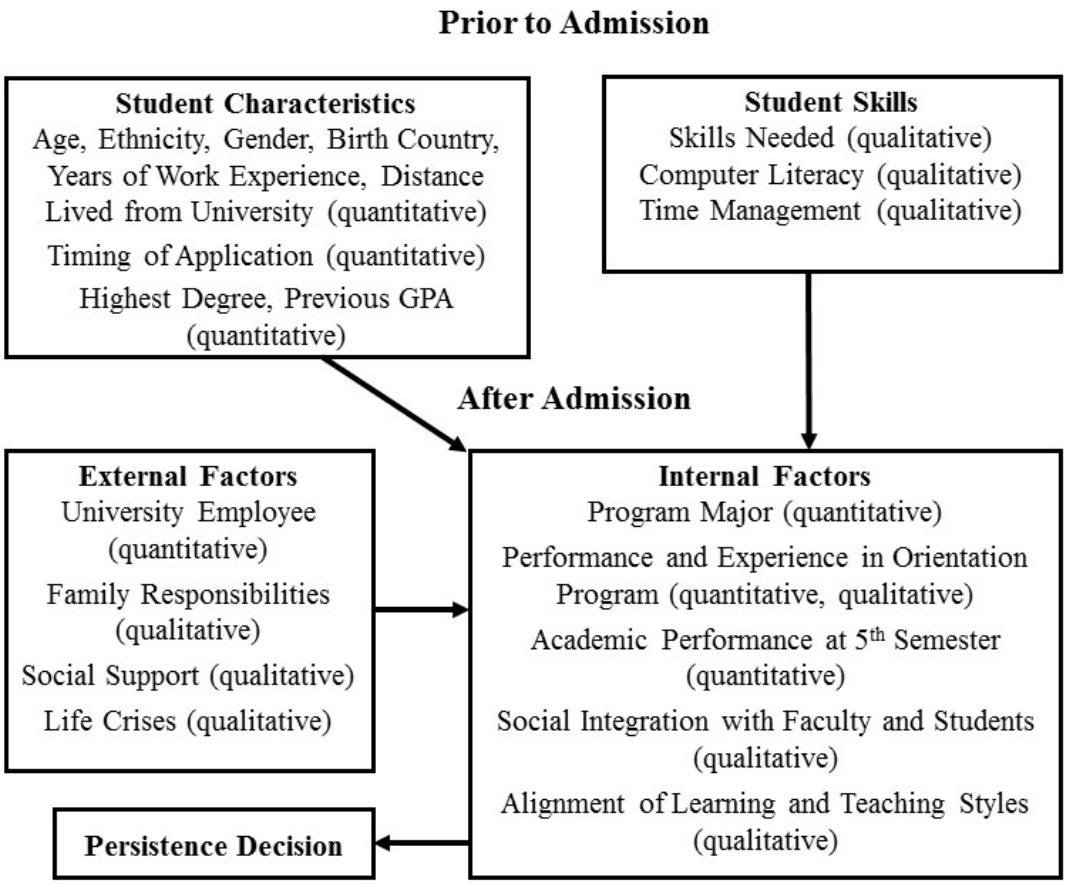

Figure 3. Alperin Adaptation of Rovai Model

Study Population

The study population was a group of working professionals who enrolled in an executive MPH program at an accredited school of public health located at an elite university in the United States.

As a program for working professionals, all executive MPH students matriculate as degree seeking students in the fall semester. Students select a major (Applied Epidemiology, Applied Public Health Informatics, Healthcare Outcomes, Prevention Science) during the application process.

The program is a 42-credit hour program which includes a two-credit practicum and four-credit thesis. The maximum course load a student can take is three two-credit courses per semester, which allows a student to complete the program in a minimum of seven semesters.

Anywhere from 50-60% of the students take a fulltime course load but given the working nature of the students, many fluctuate between taking a full course load and a part-time load. This means that a fifth semester student may have attempted as few as 10 credits or as many as 30 credits. Additionally, credits attempted may include thesis or practicum credits, which are not counted until a grade has been earned for the thesis or practicum. This is often towards the end of a student's program of study.

The executive MPH program uses a hybrid format where students come to the university campus at the beginning and end of each semester for a long weekend (Friday-Sunday) and all other coursework is done via the Internet and the Blackboard course management system.

Phase 1: Quantitative Data Collection and Analysis

Research Questions

The primary question to be answered with the quantitative component of this study was *What are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing?*

a. Good standing: Individuals in good standing are those who are still enrolled, on a current leave of absence[8], or have graduated, at the time of data analysis.
b. Bad standing: Individuals in bad standing are those who have withdrawn from the program, were excluded from the program, or have not been enrolled for more than three semesters and have unknown status at the time of data analysis.

[8] The study population is comprised of working professionals who are in an executive master of public health (MPH) program. These individuals are juggling family, work, and school and have complicated lives that can be disrupted by personal and work-related issues. When this happens, they sometimes take a leave of absence from school with the intention of returning to finish their degree.

Sub-questions include:

- Do student traits (gender, ethnicity, age, birth country, years of work experience, distance lived from university) predict success?
- Does program major predict success?
- Does timing of application submission (early, on time, late) predict success?
- Does prior academic achievement (highest degree earned, previous GPA) predict success?
- Does financial commitment (university employee or not) predict success?[9]
- Does performance in the student orientation program predict success?
- Does academic performance at the fifth semester in the program (GPA, credits attempted vs. completed, credits resulting in failure, academic probation) predict success?

Sample Selection

The individuals included in this study enrolled in the executive MPH program from fall 2010 through fall 2013. There were a total of 227 individuals included in the study (fall 2010: N=44, fall 2011: N=66, fall 2012: N=56, fall 2013: N=61). One individual was excluded from the fall 2013 data because he had begun his public health studies at another institution and in a special circumstance was given permission to transfer 21 credit hours (half of the degree) to the current program.

[9] University employees receive a courtesy scholarship benefit which allows them to take up to 5 credit hours at the university per semester for no cost. Most university employees who enroll in the executive MPH program plan their program of study so that they do not exceed this 5 credit allotment and therefore the university pays for their degree in full.

Data Sources and Dataset Development

To create the dataset of the 227 individuals who began the executive MPH program between fall 2010 and fall 2013, I looked at admission data to identify the individuals who began the program during the given timeframe. The dataset was compiled from the following data sources:

- Weekly school-wide admission reports were used to identify major, date application was started, university employment status, years of prior work experience, prior degrees and GPAs, gender, ethnicity, date of birth, birth country, and residential zip code.
- Archived gradebooks and the Blackboard course management system were used to determine performance in the online orientation course.
- The university student information system was used to determine academic performance at the fifth semester in program (see Appendix A for data abstraction definitions and rules). For each cohort included in the study, Table 2 illustrates the fifth semester, assuming continuous enrollment, and the anticipated graduation semester assuming a full course load.

  Table 2

  Fifth Semester in Program and Graduation Semester by Study Cohort

Cohort	5th Semester [a]	Graduation Semester [b]
Fall 2010	Spring 2012	Fall 2012
Fall 2011	Spring 2013	Fall 2013
Fall 2012	Spring 2014	Fall 2014
Fall 2013	Spring 2015	Fall 2015

[a] assumes continuous enrollment
[b] assumes full course load

  Data related to academic performance at the fifth semester were collected at the conclusion of the spring 2015 semester.

    - If a student was not enrolled for five semesters, academic performance from the last semester of enrollment was included in dataset.
    - If a student took courses prior to matriculating as a degree seeking student, the fifth semester was counted from time of matriculation.
- The university student information system, student files, and email correspondence were used to determine good or bad standing. These data were collected in early May 2015, at the beginning of the summer 2015 semester.

When data were missing, individual student files were reviewed and in some cases, the school's Office of Admission and Student Services was consulted.

Variables of Interest

The outcome variable is whether an individual is in good standing as of May 2015 when the data analyses were conducted. For GOODSTAND, 1 means that the individual is still enrolled, on a current leave of absence, or has graduated; and 0 means that the individual withdrew from the program, was excluded from the program, or had not been enrolled for more than three semesters with unknown status.

Predictor variables and their corresponding Rovai constructs are listed in Table 3 and include variables related to student traits, program major, timing of application submission, prior academic achievement, financial commitment, online orientation performance, and fifth semester academic metrics.

Table 3

Predictor Variables with Corresponding Rovai Constructs and Variables Names

Predictor Variable (Rovai Construct [a])	Variable Name
Student Traits (SC)	
Gender	FEMALE
Ethnicity	WHITEASIAN (White, Asian)
	UNDERREP (Underrepresented Minority – American Indian, Black, Hispanic)
	OTHRACE (Multi, Non US Citizen, Unknown)
Age	AGE
Birth Country	US (U.S. vs. elsewhere)
Years of Experience	EXPYR
Distance from University – in kilometers	KILOMETERS
Cohort (IF)	F10 (Fall 2010)
	F11 (Fall 2011)
	F12 (Fall 2012)
	F13 (Fall 2013)
Program Major (IF)	AEPI (Applied Epidemiology
	APHI (Applied Public Health Informatics)
	HCO (Healthcare Outcomes)
	PRS (Prevention Science)
Timing of Applic. Submission – in days (SC)	APPDEAD
Prior Academic Achievement (SC)	BACH (earned bachelor's degree vs. beyond)
	PREGPA (prior GPA)
Financial Commitment (EF)	UNIV (university employee)
Online Orientation (OO) Overall Performance[10] (IF)	GOODOO (good performance)
	NORMALOO (normal performance)
	BADOO (bad performance)
	MIXEDOO (elements of bad and good performance)

[10] Program staff have devised a metric whereby students are categorized into four groupings based on their performance in the online orientation course. Good performance students are those who a) post their personal introduction on the first day of the online orientation; and b) receive full credit for the group organization assignment. Bad performance students are those who a) post their personal introduction on day 3 or later; or b) receive <70% on any individual orientation assignment; or c) receive <80% for the overall orientation score. Individuals who possess components of both good and bad performance, are classified as "Mixed" and individuals who are neither good nor bad performers, are classified as "Normal."

Table 3 continued

Predictor Variable (Rovai Construct [a])	Variable Name
5th Semester Academic Metrics (IF)	FULLTIME[11] (fulltime status vs. part-time) GPA5 (GPA) ATTCOMP5 (credits attempted - completed) PROBAT5 (ever on academic probation)

[a] Rovai Constructs: SC = Student Characteristics, IF = Internal Factors, EF = External Factors

Data Analysis Plan

I used Gretl version 1.10.1 to analyze the quantitative data. To answer the primary question *What are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing?* a regression analysis was conducted on the dataset.

Conceptual model. I used multiple regression to determine whether the predictor variables can be used to predict student standing (GOODSTAND). The conceptual model that was fit is the following:

$$GOODSTAND_i = constant + ß_1*female + ß_2*whiteasian + ß_3*underrep + ß_4*othrace + ß_5*age + ß_6*us + ß_7*expyr + ß_8*kilometers + ß_9*f10 + ß_{10}*f11 + ß_{11}*f12 + ß_{12}*f13 + ß_{13}*aepi + ß_{14}*aphi + ß_{15}*hco + ß_{16}*prs + ß_{17}*appdead + ß_{18}*bach + ß_{19}*pregpa + ß_{20}*univ + ß_{21}*badoo + ß_{22}*normaloo + ß_{23}*goodoo + ß_{24}*mixedoo + ß_{25}*fulltime + ß_{26}*gpa5 + ß_{27}*attcomp5 + ß_{28}*probat5 + e_i$$

Descriptive statistics. Descriptive statistics for the outcome and predictor variables were examined.

[11] Given the working nature of the executive MPH students, many fluctuate between taking a full course load and a part-time load. Fulltime status in Table 3 is assigned to those students who have completed 30 hours (6 hours per semester x 5 semesters = 30) by the end of their fifth semester in the program.

Correlations. Pearson correlation coefficients were calculated between the predictor variables and outcome variable GOODSTAND. This allowed me to ensure that the predictor variables were related to the outcome variable. In addition, I obtained correlation indices between predictor variables in order to look for potential multicollinearity issues (Urdan, 2010). In this latter case, variables with a correlation of 0.70 or greater, were considered for removal from the regression model. Once the OLS analysis was run, I also ran a collinearity test in Gretl to examine the variance inflation factor (VIF). None of the values were greater than 10.0 and I therefore determined that collinearity was not an issue.

Linear regression. Ordinary Least Squares (OLS) was used to build a model to explain GOODSTAND considering all of the variables of interest. Since the outcome variable is dichotomous (yes or no) the model took the form of a linear probability model (LPM). In order to obtain the model that best predicts GOODSTAND conditional on the available data, I also attempted to use a model building process to drop variables that were irrelevant in explaining GOODSTAND. The model could not be further adjusted. Results from the LPM model were used to identify individuals who should be considered for phase 2 qualitative interviews.

Using the "save fitted values" option in Gretl, I ran a listing of each participant, whether they were in good standing or not, and the model's predicted probability of being in good standing (yhat). The predicted probabilities were divided in half so that those who were in bad standing, should have a predicted probability (yhat) of 0.00-0.50 and those in good standing, should have a predicted probability (yhat) of 0.51-1.00 (Table 4).

Table 4

Predicted Probabilities and Good Standing Classifications

Good Standing Classification	Predicted Probabilities
Bad Standing (GOODSTAND = 0)	0.00 – 0.50
Good Standing (GOODSTAND = 1)	0.51 – 1.00

"Successful predictors," or those individuals who were successfully predicted by the regression model, were individuals whose predicted probabilities of good standing were consistent with the values in Table 4. "Upward achievement cases" were individuals who were predicted to fail but in actuality achieved good standing (GOODSTAND = 1). For example, an individual with GOODSTAND = 1 and a predicted probability of 0.32 was classified as an "upward achievement case." "Downward achievement cases" were individuals who were predicted to succeed but in actuality achieved bad standing (GOODSTAND = 0). For example, an individual with GOODSTAND = 0 and a predicted probability of 0.88 was classified as a "downward achievement case."

"Successful predictors," "upward achievement cases," and "downward achievement cases" were selected for phase 2 qualitative interviews. In addition to exploring some of Rovai's constructs that were not available in the quantitative dataset, the interviews allowed me to explore several propositions outlined in the next section and to have a deeper understanding of the experiences of the individuals in the executive MPH program. The upward and downward achievement cases were of particular interest because these individuals had an observed value of GOODSTAND = 1, however the predictors indicated that they should have been in bad standing (or vice versa). It was therefore important to understand the experiences of these individuals. The semi-structured interviews were designed to explore why these students achieved good standing despite having predictors that put them at risk (or vice versa). Understanding these situations, has the potential to provide important recommendations to the executive MPH program leadership.

The next section will more fully describe the phase 2 qualitative portion of my study.

Phase 2: Qualitative Data Collection and Analysis

Propositions

The regression analysis in the quantitative phase of the study was useful in predicting factors of student success in the executive MPH program but the model only explained a portion

of the variance in GOODSTAND. In order to more fully understand why some students achieved good standing although they were predicted to have bad standing; and others achieved bad standing but were predicted to have good standing, the interviews in phase 2 explored the following propositions.

- Some individuals feel that online or hybrid programs of study are easier than traditional face-to-face programs. What were the students' expectations of an online/hybrid program? After completion of 5 semesters, were the students' expectations confirmed, or, if not, how did they differ?
- To be successful in an online or hybrid program of study, students may need a set of skills prior to enrollment. What skills are needed to be successful (computer literacy, time management, other) in an online or hybrid program of study? [Rovai construct: Student Skills]
- To be successful in an online or hybrid program of study, a supportive environment outside class may help, while external difficulties and challenges may create problems. What positive and negative external factors affected students' experience (e.g., financial constraints, family support and responsibilities, social support, life events – celebratory or crisis)? [Rovai construct: External Factors]
- To be successful in an online or hybrid program of study, social skills that allow integration with faculty, staff and colleagues may be crucial. How did students socially integrate with faculty, program staff, and colleagues? [Rovai construct: Internal Factors]
- For success, certain academic infrastructure elements may be necessary. What were students' experience with the orientation course? Did students' learning preference align with program's teaching style? [Rovai construct: Internal Factors]

An examination of these propositions, allowed me to explore variables that were not present in the dataset used in phase 1. In addition to exploring these propositions within the upward and downward achievement cases, I also examined the experiences of the "successful predictors."

Sample Selection

The results of the regression analysis were used to inform the qualitative phase of the study. Purposeful sampling was used to select three types of individuals for further inquiry:

1. Upward Achievement Cases: Individuals who were predicted to fail but in actuality achieved good standing (GOODSTAND = 1).
2. Downward Achievement Cases: Individuals who were predicted to succeed but in actuality achieved bad standing (GOODSTAND = 0).
3. Successful Predictors: Individuals who were successfully predicted by the regression model.

A sample of the "upward achievement cases," "downward achievement cases," and "successful predictors" was selected for semi-structured interviews. The purpose of these interviews was to explore the propositions listed above. The upward and downward achievement cases were studied to gain additional information that might explain why these individuals performed differently than they were predicted to perform. The "successful predictors" group was analyzed to gain further knowledge about a) what factors contribute to the good standing students' success, b) what factors contribute to the bad standing students' lack of success, and c) what are the distinguishing factors between the good and bad standing students.

With explanatory sequential designs, the quantitative data results are used to inform the qualitative approach (Creswell, 2014; Creswell & Plano Clark, 2011) and therefore, the exact number of interviews was determined in consultation with my major professor. For each of the groups of interview participants, Table 5 shows the group definition, total number of individuals in the dataset, number of interviews sought and the final number of interviews.

Table 5

Interview Groups by Group Definition, Number of Individuals in Dataset, Number of Interviews Sought and Final Number of Interviews Conducted

Group	Group Definition	No. of Total Individuals in Dataset [a]	No. of Interviews Sought	Final No. of Interviews
Upward Achievement	GOODSTAND = 1 Yhat <= 0.50	6	6	5[b]
Downward Achievement	GOODSTAND = 0 Yhat >= 0.51	31	6	8[c]
Successful Predictors – Good	GOODSTAND = 1 Yhat >= 0.51	148	3	3
Successful Predictors – Bad	GOODSTAND = 0 Yhat <= 0.50	25	3	3

[a] Total does not add to 227 due of missing data.
[b] One individual in this group refused participate which resulted in five interviews (versus six).
[c] Two of the individuals who were randomly selected in this group, had previously indicated an *intention* to return to the program in fall 2015. It was therefore questionable whether they were truly in the "bad standing" category and additional subjects were recruited for the "downward achievement" group.

Participant Recruitment

Once individuals were categorized into one of the four groups described above, within each group, random numbers were assigned to each possible participant. Possible participants were then sorted by the random number. Email was used to recruit participants (see Appendix B for sample email communications). Email addresses were obtained from the university student information system or school alumni data. When an email address was not available or was outdated, I used the Internet to search for a current email. If no email address was found, I moved to the next possible participant on the list.

Once contacted, I made up to three attempts to recruit an individual. If there was no response after three attempts, I moved to the next possible participant. Participants who agreed to participate were sent a copy of the consent form and were asked to sign up for an interview time using a Doodle Poll. To maintain confidentiality, responses to the Doodle Poll were hidden from all participants. Interviews were scheduled to begin as early as 7:30 am and as late as 8:30 pm on any day of the week, in order to be convenient for the participant.

Data Sources and Data Collection

The in-depth interviews were conducted from June 28-August 10, 2015, using a semi-structured format. Using the propositions listed above, an interview protocol was developed with broad questions and follow-up prompts (see Appendix C for interview protocol). Questions followed the constructs identified in the conceptual model by Rovai (2003). The semi-structured approach was selected because it allowed me to respond to unanticipated areas or topics that the interviewees might discuss (Merriam, 2009).

The interviews were conducted over the phone. I used Nonotes.com to record and transcribe the interviews verbatim. For redundancy, I took notes during each interview. In addition, at the conclusion of each interview, I documented the experience with post-interview notes (Creswell, 2013; Merriam, 2009). Once the interview transcripts were returned, I listened to each interview recording again and corrected the transcripts. This also allowed me to begin to identify themes.

Data Analysis Plan

I used QSR NVivo 10 to facilitate the analysis of the interview data. During the beginning stages of analysis, I read and reread the transcripts, making notations to capture reflections, preliminary themes, and ideas (Creswell, 2013; Creswell & Plano Clark, 2011; Merriam, 2009). I was able to develop a taxonomy of a priori or deductive codes (Miles, Huberman, & Saldana, 2014) based on the constructs found in Rovai's model and the interview questions (see Appendix D for coding taxonomy). As I coded the transcripts, I added inductive codes (Miles et al., 2014) when new concepts emerged. In addition to thematic codes, transcripts were coded to identify whether the respondent was a "downward achievement case," "upward achievement case," or "successful predictor" (good or bad standing). Ultimately, I had too many codes and collapsed related concepts into larger groupings. When interpreting the data, I used a combination of methods both technology-related and old school. I began by examining nodes within NVivo but also used pen and paper to organize concepts into "like" groups.

Validity

To address issues of validity, when possible, interview data were cross checked with the quantitative data. In addition to this triangulation of data sources, I was able to refer back to my own personal knowledge of the participants' experiences in the program and checked old emails several times to confirm information that was shared during the interviews. The nature of a dissertation as a sole endeavor, made the implementation of activities such as peer review and multiple coders difficult to achieve.

Institutional Review Board

Permission from the University of Georgia and Emory University Institutional Review Boards (IRB) was secured in spring 2015 (see Appendix E for IRB letters).

Privacy and confidentiality. For the quantitative data, two files were maintained. One file (ID) had participant names and identification numbers but no additional data. The other file (data) had participant identification numbers and variables of interest. These files were kept in two separate locations in the Dropbox cloud environment, which is password protected. Once the quantitative data were analyzed and participants were identified for the qualitative phase, I used the ID file to identify the specific individuals to recruit for phase 2.

For the qualitative phase of the project, I conducted the interviews from an office environment (either at work or home) where there was a door that could be shut to ensure that interviews were not overheard. Interview transcripts were de-identified. Again, an ID file was used to link specific transcripts to individual participants, in order to match subjects to their quantitative data for cross checking.

Data management and safety. Data files (quantitative data, transcripts, NVivo project file) were kept in the Dropbox cloud environment, which is password protected. Backups were maintained on a password protected computer.

Informed consent. Informed consent for the qualitative interviews was obtained orally prior to the interviews. The consent language included information such as a) the study involves

research, b) purpose of the research, c) duration of participation, d) foreseeable risks or discomforts, e) benefits to subject or others, f) statement of confidentiality, g) identification of who to contact for further questions, concerns or complaints, h) identification of who to contact at IRB for questions about subject rights, and i) statement that participation is voluntary and subject may withdraw at any time (see Appendix F for consent form).

Study Limitations

Study limitations relate to six areas: a) conceptual model, b) methodological decisions, c) missing data, d) grade inflation, e) generalizability of findings, and f) researcher bias.

Conceptual Model

As discussed in Chapter 1, Rovai's model was developed for undergraduate populations yet my research was conducted with working professionals who are–or were–enrolled in a master of public health program. My research provides an opportunity to extend Rovai's model to a new population but it may also be true that this model does not hold up with a population of graduate students enrolled in a professional degree program.

Methodological Decisions

Timeframe. I studied participants who enrolled in the executive MPH program between fall 2010 and fall 2013. I selected fall 2010 as the beginning date because the program's online orientation course became a pass/fail course recognized by the university registrar as of fall 2010 and I was confident in the quality of the existing data from this course. Fall 2013 was selected as the end date because students taking a full course load would complete their fifth semester (of seven) in spring 2015. In reality, at the fifth semester of enrollment, only 45% of the participants in my study were taking a full course load. This may mean that participants had not progressed through the program enough to have a true sense of the program and/or their experience.

Data classification issues. Program standing (good, bad) was determined at the beginning of the summer 2015 semester. Anticipated enrollment at a later date was not included in the determination of program standing. For example, there were two students who had not

been enrolled for greater than three semesters and their program standing was determined to be "bad" yet both students had verbally shared their *intent* to re-enroll as of the fall 2015 semester, an action which would have changed their program standing to "good" if this determination had been made in the fall 2015 semester (vs. summer semester). In reality, one student did re-enroll in the program and one did not–and both were randomly selected to participate in the interviews as part of the "downward achievement" group.

At the other extreme, there were two individuals who considered withdrawing from the program but instead took official leaves of absence (LOA), which classified them as individuals in "good" standing. Based on conversations that I had with both individuals, I think it is highly unlikely that either will return once their LOAs are complete. If the latter is true, these individuals would be classified as "bad" standing.

The fifth semester of enrollment was calculated as the fifth semester the participant took classes in the executive MPH program as a matriculated student. Prior to matriculation, some participants took courses in a non-matriculated status and this was not included in the determination of fifth semester, yet this additional experience may have provided participants with knowledge that benefitted them and helped them acclimate to the executive MPH program faster than others who did not have this experience.

Several participants changed tracks (majors) during the program and this was not captured. Participants were classified by their track at time of program enrollment. Data for race and ethnicity were pulled from participants' admissions applications. When "unknown" was indicated, I left this value and did not try to determine the participant's race or ethnicity.

Experience of "bad" standing participants. By definition, those classified as "bad" standing had withdrawn from the program, were excluded from the program, or had not been enrolled for more than three semesters and had unknown status at the time of data analysis. Many of the participants that I interviewed who were classified as "bad" standing had only completed a couple of semesters in the program. The median number of credits taken by the "successful

predictors – bad" and "downward achievement cases" was eight credits (of a required 42 credits). It is therefore important to be aware of this when comparing comments from these "bad" standing individuals to comments from individuals in "good" standing who had completed the program or were almost complete.

Recall bias. Interview participants who began the program in fall 2010 or fall 2011, often had difficulty recalling issues (e.g., program expectations, needed skills, online orientation) from the beginning of their program experience. In addition, because many of the individuals categorized as "bad" standing, had limited experience in the program and had stopped after only a few semesters, these participants also had difficulty remembering their experiences. This was particularly true for the "bad" standing participants who began the program in fall 2010 or fall 2011, who were being asked to recall information from 4-5 years prior.

Number of interview participants. The nature of qualitative research does not allow for hundreds of interviews and therefore the number of interview participants was determined in consultation with my major professor. Of particular interest were the experiences of the "upward achievement cases" and "downward achievement cases" and therefore, I sought to interview more individuals in these categories (versus the "successful predictor" categories). It was believed that I would gain a thick description (Merriam, 2009) with 18 interviews (3 successful predictors – good, 3 successful predictors – bad, 6 upward achievement cases, 6 downward achievement cases). In reality, my distribution of interviews was slightly different (3 successful predictors – good, 3 successful predictors – bad, 5 upward achievement cases, 8 downward achievement cases). There may have been something unique about the individuals who I interviewed and if I had interviewed additional, or different participants, I may have gleaned other information.

Missing Data

Seventeen participants had missing data (GPA prior to enrollment, online orientation performance). These participants were dropped from the linear probability model, the predicted probability of good standing was not calculated, and these participants were not categorized into

the four groupings (successful predictors – good, successful predictors – bad, upward achievement cases, downward achievement cases). There may have been something unique about this group that was not captured, since they were excluded from the analyses.

Grade Inflation

Anecdotally, grades in the school of public health, including the executive MPH program, are subject to grade inflation. Therefore, when looking at issues of program completion and success (e.g., GPA, academic probation, credits resulting in failure), there may be an underreporting of these metrics.

Generalizability of Findings

Although many of the recommendations found in Chapter 6 are good practice for other online programs, the findings of my study are specific to the executive MPH program. As such, they are not generalizable to other online graduate degree programs or to other online MPH programs.

Researcher Bias

It is important to be transparent in my dual role as both researcher and chair of the executive MPH program so that others understand that there may be biases that shaped the approach to the study and/or the interpretation of my findings (Creswell, 2013). In addition to serving as the chair of the executive MPH program, I am also a faculty member who teaches two courses per year in the program. As the program chair, I have an open door policy with students and I am often in a position where students seek me out to share concerns. I viewed my role as researcher as an extension of my natural role.

The advantage of serving as the researcher and interviewer is that I understand the nuances of the program and can interpret comments that another outside interviewer may not pick up on. The disadvantage to my dual role, is that interview participants may not be comfortable sharing negative feedback with me–and I may not be willing to hear negative comments. My experience in conducting the interviews suggests that interview participants were comfortable

sharing their experiences because almost all participants shared some negative experience and several participants were very negative. Therefore, I believe that participants felt comfortable sharing their experiences and insights, both positive and negative. Because of my two roles, when examining the data, I had a heightened sense of awareness to ensure that I was being fair in my interpretations.

Summary

Using the Composite Persistence Model by Rovai (2003), this mixed methods study used an explanatory sequential design to examine predictors of student success in a distance-learning MPH program. The overarching questions were a) what are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing? and b) what were the experiences of students with good and bad program standing? This chapter has describe the research design and study methods that were used to answer these questions.

CHAPTER 4

QUANTITATIVE FINDINGS

To identify predictors of student success in the executive master of public health (MPH) program, I used regression analysis on a dataset of 227 individuals who enrolled in the program from fall 2010 through fall 2013. The descriptive statistics, the correlation matrix and results of the regression analysis are described in this chapter.

Research Questions

The primary question that was addressed with the quantitative component of this study was *What are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing?*

Sub-questions included:

- Do student traits (gender, ethnicity, age, birth country, years of work experience, distance lived from university) predict success?
- Does program major predict success?
- Does timing of application submission (early, on time, late) predict success?
- Does prior academic achievement (highest degree earned, previous GPA) predict success?
- Does financial commitment (university employee or not) predict success?
- Does performance in student orientation program predict success?
- Does academic performance at fifth semester in program (GPA, credits attempted vs. completed, credits resulting in failure, academic probation) predict success?

Descriptive Statistics

Table 6 contains the summary statistics of the variables of interest in the model.

Table 6

Summary Statistics of Outcome and Explanatory Variables (n=227)

	Mean	Std dev	Min	Max	Missing
Good Standing @ May 2015	0.7357	---	0	1	0
Cohort					
Fall 2010	0.1938	---	0	1	0
Fall 2011	0.2907	---	0	1	0
Fall 2012	0.2467	---	0	1	0
Fall 2013	0.2687	---	0	1	0
Major					
Applied Epidemiology	0.2291	---	0	1	0
Applied PH Informatics	0.1586	---	0	1	0
Healthcare Outcomes	0.0749	---	0	1	0
Prevention Science	0.5374	---	0	1	0
Proximity of Submission to Deadline (days)	7.9515	77.4590	-150.00	389.00	0
University Employee	0.3877	---	0	1	0
Years of Experience	9.4978	6.8701	0.00	31.00	0
Bach Degree (vs. Beyond Bach)	0.5066	---	0	1	0
GPA Prior to Enrollment	3.2438	0.3757	2.31	4.00	3
Female Students	0.7181	---	0	1	0
Ethnicity					
White or Asian	0.4493	---	0	1	0
Underrepresented Minority (Am. Indian, Black, Hispanic)	0.3789	---	0	1	0
Other (Multi, Non US Citizen, Unknown)	0.1718	---	0	1	0
Age at Enrollment	36.9870	7.8145	23.00	60.00	0
US is Birth Country	0.7357	---	0	1	0
Residential Distance from University (km)	569.9437	1248.33	2.88	9879.44	0
Online Orientation – Overall Performance					
Bad	0.2113	---	0	1	14
Normal	0.4742	---	0	1	14
Good	0.2629	---	0	1	14
Mixed (Elements of Bad and Good Performance)	0.0516	---	0	1	14
5th Semester Academic Metrics					
Fulltime Status	0.4537	---	0	1	0
GPA	3.5607	0.6780	0.00	4.00	0
Credits Attempt minus Credits Complete	0.7665	1.7956	0	12	0
No. of Credits Resulting in Failure	0.3392	1.1653	0	8	0
Ever on Academic Probation	0.0573	---	0	1	0

There were a total of 227 participants[12]. Of these, 74% were categorized as individuals in good standing and 26% were categorized as individuals in bad standing. Nineteen percent of the participants began the executive MPH program in fall 2010, 29% in fall 2011, 25% in fall 2012, and 27% in fall 2013. The Prevention Science major is the most common major with 54% of the participants, followed by Applied Epidemiology (23%), Applied Public Health Informatics (16%), and Healthcare Outcomes (7%). Thirty-nine percent of the participants were university employees, which suggests that these individuals had access to the courtesy scholarship benefit which provides free tuition for up to 5 credits per semester.

Seventy-two percent of the participants were female and the average age at time of program enrollment was 37 years. The U.S. was the country of birth for 74% of the participants and 45% were white or Asian, 38% an underrepresented minority (American Indian, black, Hispanic), and 17% were another race or ethnicity (multi, non-US citizen, unknown). More than half (51%) of the participants were academically prepared with a bachelor's degree as their highest degree. The average GPA prior to enrollment was 3.2 and the average GPA at the fifth semester of enrollment was 3.6.

Correlations

Table 7 shows the correlations between each pair of variables included in the final model. In this section, I will discuss correlations related to good standing and other variables of note (e.g., participant characteristics, university employee, academic preparation, prior work experience, online orientation performance).

Good Standing

The correlation matrix indicates that good standing is positively and significantly correlated with six variables: fall 2012 cohort ($p<0.05$), white or Asian ($p<0.05$), female ($p<0.05$),

[12] Study participants are current students, previous students, or alumni of the executive MPH program.

fulltime status ($p<0.05$), Applied Epidemiology major ($p<0.01$), and GPA at the fifth semester ($p<0.001$). Based on these results, I can make the following conclusions:

- Given that the other cohorts do not show any significance, participants who began the executive MPH program in fall 2012, were more likely to be in good standing than participants in other cohorts (fall 2010, fall 2011, fall 2013).
- Given that other race and ethnicity groups did not show any significance, participants who were white or Asian, were more likely to be in good standing than participants of other races and ethnicities (underrepresented minorities, other).
- Females were more likely to be in good standing than males.
- Fulltime participants–those enrolled in six credits per semester–were more likely to be in good standing than those enrolled in fewer than six credits per semester.
- Applied Epidemiology participants were more likely to be in good standing than those enrolled in the program's other majors (Applied Public Health Informatics, Healthcare Outcomes, Prevention Science).
- As GPA at the fifth semester increases, participants were more likely to be in good standing.

In addition, good standing is negatively and significantly correlated with the Healthcare Outcomes major ($p<0.001$) and the following fifth semester variables: whether the participant had ever been on academic probation ($p<0.01$), the difference between the number of credits attempted and completed ($p<0.001$), and number of credits resulting in failure ($p<0.001$). The following conclusions can be drawn from these results:

- Healthcare Outcomes participants were less likely to be in good standing than those enrolled in the program's other majors (Applied Epidemiology, Applied Public Health Informatics, Prevention Science).

- Participants who have been on academic probation were less likely to be in good standing than those who have never been on academic probation.
- The larger the difference between the number of credits attempted and number completed, the less likely participants were to be in good standing.
- The more credits participants fail, the less likely they were to be in good standing.

Participant Characteristics

Age. Age is negatively and significantly correlated to the number of credits resulting in failure as of the fifth semester ($p<0.05$) which means that as the number of credits resulting in failure increased, age decreased suggesting that younger participants fail courses more frequently than older participants.

Sex. Female is positively and significantly correlated to good performance in the online orientation course ($p<0.05$), which means that participants with good performance were more likely to be female.

Ethnicity and race. The category of white/Asian is positively and significantly correlated with good performance in the online orientation course ($p<0.05$) and GPA at the fifth semester ($p<0.01$). In addition, it is negatively and significantly correlated with bad performance in the online orientation course ($p<0.01$) and the following fifth semester variables: the difference between the number of credits attempted and completed ($p<0.05$), whether the participant had ever been on academic probation ($p<0.01$), and number of credits resulting in failure ($p<0.01$).

Underrepresented minorities are positively and significantly correlated with whether the participant had ever been on academic probation as of the fifth semester ($p<0.05$); and negatively and significantly correlated with good performance in the online orientation course ($p<0.05$) and GPA at the fifth semester ($p<0.01$).

The "other" race category is positively and significantly correlated with the difference between the number of credits attempted and completed at the fifth semester ($p<0.05$). Based on these results, the following conclusions can be made:

- Participants with good performance in the online orientation course were more likely to be white/Asian than participants with bad, normal or mixed performance; and less likely to be an underrepresented minority than participants with bad, normal or mixed performance.
- Participants with bad performance in the online orientation course were less likely to be white/Asian than participants with good, normal or mixed performance.
- Participants who have been on academic probation were more likely to be an underrepresented minority; and less likely to be white/Asian.
- As GPA at the fifth semester increased, the participant was more likely to be white/Asian; and less likely to be an underrepresented minority.
- As the number of courses resulting in failure increased, the participant was less likely to white/Asian.
- The larger the difference between the number of credits attempted and number completed, the less likely the participants were white/Asian; and the more likely they were categorized as "other" race.

University Employee

Being a university employee is positively and significantly correlated with the following fifth semester variables: the difference between the number of credits attempted and completed ($p<0.05$), and the number of credits resulting in failure ($p<0.05$) which lead to the following conclusions:

- The larger the difference between the number of credits attempted and number completed, the more likely participants were to be a university employee.
- The more credits participants failed, the more likely they were to be a university employee.

Academic Preparation

Bachelor's (versus graduate) academic preparation is negatively and significantly correlated with good performance in the online orientation course ($p<0.05$) which means that participants who had good performance in the online orientation, were less likely to be prepared only at the bachelor's level and were more likely to have advanced degrees.

GPA prior to enrollment is positively and significantly correlated with GPA at the fifth semester ($p<0.01$). In addition, it is negatively and significantly correlated with the following fifth semester metrics: the difference between the number of credits attempted and completed ($p<0.05$), whether the participant had ever been on academic probation ($p<0.05$), and number of credits resulting in failure ($p<0.01$). Based on these results, the following conclusions can be made:

- As GPA at the fifth semester increased, prior GPA was also higher.
- The difference between the number of credits attempted and number completed and prior GPA were negatively correlated.
- Having been on academic probation was negatively correlated with variations in prior GPA.
- The more credits participants fail, the lower GPA was prior to enrollment.

Prior Employment

Years of work experience is positively and significantly correlated to GPA at the fifth semester ($p<0.05$). It is also negatively and significantly correlated to bad performance in the online orientation course ($p<0.05$), number of credits resulting in failure ($p<0.05$), and the difference between the number of credits attempted and completed ($p<0.01$). The following conclusions can be made:

- As GPA at the fifth semester increased, years of work experience also increased.

- Participants who performed badly in the online orientation course, were more likely to have less work experience prior to enrollment.
- The more credits participants failed, the more likely they had less work experience prior to enrollment.
- The larger the difference between the number of credits attempted and number completed, the more likely participants had less work experience prior to enrollment.

Online Orientation Performance

Good performance in the online orientation course is positively and significantly correlated with GPA at the fifth semester ($p<0.05$). Bad performance in the online orientation is positively and significantly correlated with the following fifth semester variables: the difference between the number of credits attempted and completed ($p<0.01$) and the number of credits resulting in failure ($p<0.001$). I can therefore make the following conclusions:

- As GPA at the fifth semester increased, participants were more likely to have good performance in the online orientation course.
- The larger the difference between the number of credits attempted and number completed, the more likely participants were to have bad performance in the online orientation course.
- The more credits participants failed, the more likely they were to have bad performance in the online orientation course.

Table 7

Correlation Matrix for Variables of Interest[13]

GOODSTAND	F10	F11	F12	F13	AEPI	APHI	
1.0000	-0.0599	-0.1222	0.1344	0.0479	0.1841	-0.0133	GOODSTAND
	1.0000	-0.3139	-0.2806	-0.2972	0.0509	-0.2129	F10
		1.0000	-0.3664	-0.3881	-0.0951	0.0407	F11
			1.0000	-0.3469	0.0042	0.0033	F12
				1.0000	0.0479	0.1449	F13
					1.0000	-0.2367	AEPI
						1.0000	APHI

p<0.05 (light gray), p<0.01 (medium gray), p<0.001 (dark gray)

[13] The following variables are mutually exhaustive and exclusive and therefore the interpretation of the correlation coefficients are meaningless: cohort (fall 2010, fall 2011, fall 2012, fall 2013); major (Applied Epidemiology, Applied Public Health Informatics, Healthcare Outcomes, Prevention Science); ethnicity (White/Asian, underrepresented minority, other); and online orientation performance (bad, normal, good, mixed). These variables have been included in the correlation matrix to see if they are related to other variables.

Table 7 continued

HCO	PRS	APPDEAD	UNIV	EXPYR	BACH	PREGPA	
-0.2470	-0.0151	0.0211	-0.0562	0.0566	0.0479	0.0549	GOODSTAND
0.2839	-0.0368	-0.0888	-0.0013	0.0749	-0.1402	0.0208	F10
0.0758	0.0103	-0.0729	-0.0117	-0.0833	0.0692	0.0028	F11
-0.1628	0.0800	0.1350	-0.0988	0.0211	0.0538	-0.0242	F12
-0.1725	-0.0555	0.0226	0.1092	-0.0020	0.0019	0.0020	F13
-0.1551	-0.5876	-0.0880	-0.0034	-0.0105	-0.0911	0.1284	AEPI
-0.1235	-0.4680	-0.0933	0.1744	0.1514	0.0184	-0.0666	APHI
1.0000	-0.3067	-0.0018	-0.0203	0.0379	-0.1544	0.0742	HCO
	1.0000	0.1435	-0.1142	-0.1221	0.1448	-0.0990	PRS
		1.0000	-0.1512	-0.1892	0.1840	-0.1247	APPDEAD
			1.0000	0.0636	0.0257	0.0231	UNIV
				1.0000	-0.3551	-0.0823	EXPYR
					1.0000	-0.1547	BACH
						1.0000	PREGPA

$p<0.05$ (light gray), $p<0.01$ (medium gray), $p<0.001$ (dark gray)

Table 7 continued

FEMALE	UNDERREP	WHITEASIAN	OTHRACE	AGE	US	KILOMETERS	
0.1351	-0.0673	0.1398	-0.0978	-0.0356	0.0258	0.1255	GOODSTAND
-0.0147	-0.0384	0.1172	-0.1052	0.0180	0.1170	-0.0197	F10
-0.1163	-0.1601	0.0457	0.1456	-0.0549	-0.1442	0.1009	F11
0.1315	0.0797	-0.1061	0.0374	-0.0056	-0.0509	0.0146	F12
0.0044	0.1207	-0.0481	-0.0917	0.0456	0.0929	-0.1001	F13
-0.1011	-0.1880	0.2030	-0.0260	-0.0784	-0.0536	0.2653	AEPI
-0.0764	-0.0159	-0.0043	0.0261	0.1245	-0.0953	-0.1648	APHI
-0.3053	-0.0497	0.0794	-0.0409	0.0477	-0.0192	-0.0325	HCO
0.3023	0.1963	-0.2099	0.0244	-0.0503	0.1252	-0.0857	PRS
0.0529	0.0402	0.0184	-0.0760	-0.0857	0.0026	0.0174	APPDEAD
0.0364	-0.0809	-0.0098	0.1170	0.1022	-0.1382	-0.3407	UNIV
-0.0602	-0.0382	0.0959	-0.0774	**0.6960**	0.0727	-0.0232	EXPYR
0.0670	0.0078	-0.0297	0.0290	-0.3441	-0.0320	-0.0125	BACH
-0.0307	-0.1452	0.1232	0.0251	-0.0548	-0.0501	-0.0665	PREGPA
1.0000	0.1059	-0.0835	-0.0261	0.0253	0.1129	-0.1125	FEMALE
	1.0000	**-0.7055**	-0.3557	-0.0418	0.0151	-0.1216	UNDERREP
		1.0000	-0.4114	0.0765	0.1800	-0.0001	WHITEASIAN
			1.0000	-0.0472	-0.2567	0.1566	OTHRACE
				1.0000	0.0310	-0.0684	AGE
					1.0000	-0.0558	US
						1.0000	KILOMETERS

p<0.05 (light gray), p<0.01 (medium gray), p<0.001 (dark gray)

Table 7 continued

BADOO	GOODOO	MIXEDOO	NORMALOO	GPA5	FULLTIME	
-0.0828	0.1144	0.0430	-0.0522	0.3857	0.1450	GOODSTAND
-0.1504	-0.0677	-0.0667	0.2122	-0.0525	0.0232	F10
0.0566	0.0443	0.0757	-0.1189	-0.0006	0.0010	F11
-0.0264	0.0826	-0.0832	-0.0144	0.0371	0.0737	F12
0.1075	-0.0663	0.0649	-0.0582	0.0114	-0.0934	F13
-0.1189	0.0537	0.1245	-0.0052	0.1614	0.0717	AEPI
0.0327	0.0390	-0.0413	-0.0428	0.0078	-0.0566	APHI
0.0598	-0.0185	-0.0687	-0.0021	-0.1037	-0.0240	HCO
0.0442	-0.0635	-0.0377	0.0366	-0.0870	-0.0063	PRS
-0.0752	0.0698	-0.0009	0.0003	0.0056	0.0530	APPDEAD
-0.0114	0.0330	0.1309	-0.0778	-0.0720	-0.3619	UNIV
-0.1599	0.0234	-0.0805	0.1458	0.1511	-0.2082	EXPYR
0.0078	-0.1377	0.0092	0.1109	-0.0401	0.103	BACH
0.0699	0.0181	-0.0618	-0.0453	0.2049	-0.0613	PREGPA
-0.0850	0.1369	-0.0425	-0.0324	-0.0415	-0.0386	FEMALE
0.1211	-0.1549	0.0380	0.0207	-0.2018	0.0726	UNDERREP
-0.2145	0.1663	0.0018	0.0279	0.1801	-0.0584	WHITEASIAN
0.1270	-0.0205	-0.0510	-0.0631	0.0221	-0.0163	OTHRACE
-0.0482	-0.0222	0.0064	0.0561	0.1009	-0.2719	AGE
-0.0888	0.1087	-0.0077	-0.0198	-0.0654	0.0848	US
0.0097	0.0147	-0.0680	0.0093	0.0569	0.1768	KILOMETERS
1.0000	-0.3091	-0.1208	-0.4915	-0.1296	0.0843	BADOO
	1.0000	-0.1394	-0.5671	0.1518	-0.0332	GOODOO
		1.0000	-0.2216	0.0542	0.0758	MIXEDOO
			1.0000	-0.0518	-0.0733	NORMALOO
				1.0000	-0.0565	GPA5
					1.0000	FULLTIME

p<0.05 (light gray), p<0.01 (medium gray), p<0.001 (dark gray)

Table 7 continued

ATTCOMP5	FAIL5	PROBATION5	
-0.4350	-0.2719	-0.1962	GOODSTAND
0.0390	-0.0855	0.0230	F10
0.0672	0.0301	-0.0326	F11
-0.0395	0.0791	-0.0091	F12
-0.0652	-0.0316	0.0217	F13
-0.1455	-0.0779	-0.0892	AEPI
-0.0377	0.0186	-0.0032	APHI
0.1398	0.0321	0.0019	HCO
0.0764	0.0351	0.0766	PRS
-0.0016	-0.0092	0.0284	APPDEAD
0.1693	0.1489	0.1152	UNIV
-0.1885	-0.1649	-0.1202	EXPYR
0.0189	0.0454	-0.0222	BACH
-0.1575	-0.1741	-0.1544	PREGPA
0.0222	0.0481	0.0702	FEMALE
0.0612	0.1158	0.1593	UNDERREP
-0.1690	-0.2102	-0.1845	WHITEASIAN
0.1441	0.1283	0.0385	OTHRACE
-0.0409	-0.1365	-0.0652	AGE
0.0167	-0.0142	0.0188	US
-0.0038	0.0782	-0.0022	KILOMETERS
0.2018	0.2316	0.1229	BADOO
-0.1095	-0.0473	-0.0534	GOODOO
0.0426	-0.0321	-0.0570	MIXEDOO
-0.0873	-0.1334	-0.0281	NORMALOO
-0.6376	-0.5597	-0.5201	GPA5
0.0249	0.0157	0.0039	FULLTIME
1.0000	**0.7147**	0.6141	ATTCOMP5
	1.0000	**0.7434**	FAIL5
		1.0000	PROBATION5

p<0.05 (light gray), p<0.01 (medium gray), p<0.001 (dark gray)

Linear Regression

Ordinary Least Squares (OLS) was used to build a model to explain good standing considering all the variables of interest. Since the outcome variable was dichotomous (yes, no), the model took the form of a linear probability model. The model can be written as follows:

P^(GoodStand=1) = 0.177 + 0.146*female + 0.136*whiteasian + 0.058*underrep – 0.003*age + 0.017*us + 0.003*expyr + 5.486e-05*kilometers – 0.042*f10 – 0.085*f11 + 0.052*f12 + 0.059*aepi + 0.013*aphi – 0.145*hco – 1.102e-05*appdead + 0.004*bach – 0.021*pregpa + 0.105*univ + 0.061*badoo + 0.022*goodoo + 0.107*mixedoo + 0.147*fulltime + 0.121*gpa5 – 0.091*attcomp5 + 0.345*probat5

N=210, R-squared = 0.360

Table 8 shows the results of the linear probability model. The variables in the model explain 36% of the variation we see in good standing. There are four statistical associations in the model:

- When the other variables are held constant, FEMALE is statistically associated with good standing ($p<0.05$) meaning that female participants are more likely to be in good standing than male participants.
- When the other variables are held constant, FULLTIME is statistically associated with good standing ($p<0.05$) meaning that fulltime participants, those taking six credits per semester, are more likely to be in good standing than participants taking less than six credits per semester.
- When the other variables are held constant, GPA5 is statistically associated with good standing ($p<0.05$) meaning that for every unit increase in GPA at the fifth semester, the probability of being in good standing increases by 12%.
- When the other variables are held constant, ATTCOMP5 is statistically associated with good standing ($p<0.01$) meaning that for every unit of increase seen in the

difference between credits attempted and completed, the probability of being in good standing decreases by 9%.

Table 8

Good Standing Explained by Variables of Interest Using Linear Probability Model

Model 1: OLS, using observations 1-227 (n = 210)
Missing or incomplete observations dropped: 17
Omitted due to exact collinearity: F13 PRS OTHRACE NORMALOO

	Coefficient	Std. Error	t-ratio	p-value	
const	0.176709	0.381127	0.4636	0.6434	
F10	−0.0422028	0.0881065	−0.4790	0.6325	
F11	−0.0849741	0.0761002	−1.1166	0.2656	
F12	0.0521395	0.078706	0.6625	0.5085	
AEPI	0.0589188	0.0752475	0.7830	0.4346	
APHI	0.013305	0.0835914	0.1592	0.8737	
HCO	−0.14451	0.115536	−1.2508	0.2126	
APPDEAD	−1.10199e-05	0.000369396	−0.0298	0.9762	
UNIV	0.104951	0.0691053	1.5187	0.1306	
EXPYR	0.00275377	0.00590098	0.4667	0.6413	
BACH	0.00441334	0.0622597	0.0709	0.9436	
PREGPA	−0.0213481	0.0769758	−0.2773	0.7818	
FEMALE	0.145753	0.0673014	2.1657	0.0316	*
UNDERREP	0.0579506	0.0841349	0.6888	0.4918	
WHITEASIAN	0.136094	0.0823856	1.6519	0.1003	
AGE	−0.00327494	0.00505427	−0.6480	0.5178	
US	0.0169119	0.0662306	0.2553	0.7987	
KILOMETERS	5.48622e-05	2.86533e-05	1.9147	0.0571	
BADOO	0.061253	0.0761201	0.8047	0.4220	
GOODOO	0.0218397	0.0690056	0.3165	0.7520	
MIXEDOO	0.107407	0.130751	0.8215	0.4124	
GPA5	0.120881	0.0543403	2.2245	0.0273	*
FULLTIME	0.147258	0.059917	2.4577	0.0149	*
ATTCOMP5	−0.0911977	0.0252859	−3.6067	0.0004	**
FAIL5	−0.0226921	0.0416897	−0.5443	0.5869	
PROBATION5	0.345171	0.175953	1.9617	0.0513	

* p<0.05, ** p<0.01

Mean dependent var	0.733333	S.D. dependent var	0.443273
Sum squared resid	26.28506	S.E. of regression	0.377960
R-squared	0.359942	Adjusted R-squared	0.272977
F(25, 184)	4.138953	P-value(F)	8.84e-09
Log-likelihood	−79.77587	Akaike criterion	211.5517
Schwarz criterion	298.5765	Hannan-Quinn	246.7326

After identifying the variables that are the best predictors of good standing, I attempted to use a model building process and drop variables that are irrelevant to explain good standing but the model could not be further adjusted.

Collinearity Test

Once the OLS analysis was run, I also ran a collinearity test in Gretl to examine the variance inflation factor (VIF). Table 9 shows the results of this test.

Table 9

Variance Inflation Factors Test

Variable	Value
F10	1.890
F11	1.788
F12	1.674
AEPI	1.468
APHI	1.327
HCO	1.460
APPDEAD	1.210
UNIV	1.630
EXPYR	2.419
BACH	1.420
PREGPA	1.225
FEMALE	1.345
UNDERREP	2.454
WHITEASIAN	2.472
AGE	2.293
US	1.201
KILOMETERS	1.458
BADOO	1.411
GOODOO	1.353
MIXEDOO	1.247
GPA5	1.947
FULLTIME	1.316
ATTCOMP5	3.116
FAIL5	3.516
PROBATION5	2.452

Minimum possible value = 1.0
Values > 10.0 may indicate a collinearity problem

VIF(j) = 1/(1 - R(j)^2), where R(j) is the multiple correlation coefficient between variable j and the other independent variables

If there are values greater than 10.0, this may indicate that there is an issue of collinearity. There were no values greater than 10.0 and therefore it is appropriate that all variables were kept in the model.

Key Findings

Predictors of Student Success

The primary question addressed with this phase of the study was *What are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing?* The data indicate that those who were more likely to be in good standing were female, white/Asian, Applied Epidemiology majors, enrolled fulltime, or began the program in fall 2012. Additionally, for every unit of increase in GPA at the fifth semester, the probability of being in good standing increased 12%.

Those participants who were less likely to be in good standing were Healthcare Outcomes majors or participants who had been on academic probation. In addition, the more credits participants failed, the less likely they were to be in good standing and for every unit of increase seen in the difference between credits attempted and credits completed, the probability of being in good standing decreased by 9%.

Variables that did not predict program standing include age, birth country (U.S. or other), years of work experience, distance lived from university, timing of application, prior academic achievement (highest level of degree earned, previous GPA), university employment status, or performance in student orientation course.

Additional Findings

Online orientation course. Participants with good performance in the online orientation course were more likely to be female or white/Asian; and less likely to be an underrepresented minority or academically prepared at the bachelor's level (versus an advanced degree). Participants who performed badly in the online orientation course, were more likely to have less work experience prior to enrollment; and less likely to be white/Asian.

Credits resulting in failure. As the number of credits resulting in failure increased, the more likely the participant was to be a university employee; the more likely they were to have bad performance in the online orientation course; and the more likely they were to have less work experience prior to enrollment. In addition, as the number of credits resulting in failure increased, the participant was less likely to be white/Asian; and less likely to have a high GPA prior to enrollment suggesting that participants who failed courses had lower pre-enrollment GPAs. As the number of credits resulting in failure increased, age decreased suggesting that younger participants failed courses more frequently than older participants.

Academic probation. Participants who have been on academic probation were more likely to be an underrepresented minority; and less likely to be white/Asian or have a high GPA prior to enrollment which suggests that participants who had been on academic probation had lower pre-enrollment GPAs.

Difference between credits attempted and completed. The larger the difference between the number of credits attempted and number completed, the more likely participants were categorized as "other" race; the more likely they were to be a university employee; the more likely they were to have bad performance in the online orientation course; the more likely they were to have less work experience prior to enrollment; the less likely they were to be white/Asian; and the less likely they were to have a high GPA prior to enrollment suggesting that those with a larger difference between credits attempted and completed, had lower pre-enrollment GPAs.

GPA at 5th semester. As GPA at the fifth semester increased, participants were more likely to have good performance in the online orientation course; more likely to be white/Asian; and less likely to be an underrepresented minority. In addition, as GPA at the fifth semester increased, prior GPA and years of experience were also higher suggesting that those with higher fifth semester GPAs also had higher pre-enrollment GPAs and more years of work experience.

Summary

This chapter presented the quantitative findings from the regression analysis conducted on a dataset of 227 individuals who enrolled in the executive MPH program from fall 2010 through fall 2013. The descriptive statistics, the correlation matrix, and results of the regression analysis were described. Chapter 5 will present the qualitative findings from this research.

CHAPTER 5

QUALITATIVE FINDINGS

To more fully understand the experiences of students in the executive MPH program and why some students achieved good standing although they were predicted to have bad standing and others achieved bad standing but were predicted to have good standing, 19 in-depth, semi-structured interviews were conducted with individuals representing four groups: a) successful predictors – good standing, b) successful predictors – bad standing, c) upward achievement cases, and d) downward achievement cases. This chapter includes the qualitative findings gathered through these interviews. For each proposition explored, findings will be presented for all participants. When there were differences among the four interview groups, findings are also presented by interview group; otherwise, only summary information for all participants is presented.

Propositions

Using the Composite Persistence Model by Rovai as a conceptual framework, the interviews explored the following propositions:

- Some individuals feel that online or hybrid programs of study are easier than traditional face-to-face programs. What were the students' expectations of an online/hybrid program? After completion of 5 semesters, were the students' expectations confirmed, or, if not, how did they differ?
- To be successful in an online or hybrid program of study, students may need a set of skills prior to enrollment. What skills are needed to be successful (computer literacy, time management, other) in an online or hybrid program of study? [Rovai construct: Student Skills]

- To be successful in an online or hybrid program of study, a supportive environment outside class may help, while external difficulties and challenges may create problems. What positive and negative external factors affected students' experience (e.g., financial constraints, family support and responsibilities, social support, life events – celebratory or crisis)? [Rovai construct: External Factors]
- To be successful in an online or hybrid program of study, social skills that allow integration with faculty, staff and colleagues may be crucial. How did students socially integrate with faculty, program staff, and colleagues? [Rovai construct: Internal Factors]
- For success, certain academic infrastructure elements may be necessary. What were students' experience with the orientation course? Did students' learning preference align with program's teaching style? [Rovai construct: Internal Factors]

Population and Sample

Nineteen in-depth, semi-structured interviews were conducted with individuals representing four interview groups. Table 10 describes the summary statistics for each of the interview groups from which the interview participants were randomly selected. Of the 210[14] participants who were categorized into interview groups, 70% (n=148) were categorized as "successful predictors – good standing;" 12% (n=25) were "successful predictors – bad standing;" 3% (n=6) were "upward achievement cases" meaning that they were in good standing but had been predicted to be in bad standing; and 15% (n=31) were "downward achievement cases" meaning they were in bad standing but had been predicted to be in good standing.

[14] Seventeen participants had missing data (GPA prior to enrollment, online orientation performance). These participants were dropped from the linear probability model and were not categorized into the four interview groups.

Table 10

Summary Statistics by Interview Group

	Interview Groups[a]			
	SPG n=148	SPB n=25	UA n=6	DA n=31
	Mean	Mean	Mean	Mean
Cohort				
Fall 2010	0.1824	0.2400	0.5000	0.2581
Fall 2011	0.2568	0.5600	0.3333	0.2903
Fall 2012	0.2838	0.0800	0.1667	0.1936
Fall 2013	0.2770	0.1200	0.0000	0.2581
Major				
Applied Epidemiology	0.2905	0.0000	0.0000	0.1613
Applied PH Informatics	0.1419	0.0000	0.5000	0.2581
Healthcare Outcomes	0.0203	0.4000	0.5000	0.0323
Prevention Science	0.5473	0.6000	0.0000	0.5484
Proximity of Submission to Deadline (days)	15.0135	33.7200	-20.0000	-10.1613
University Employee	0.3446	0.4000	0.5000	0.4194
Years of Experience	9.4865	6.1600	13.5000	10.7742
Bach Degree (vs. Beyond Bach)	0.5473	0.4400	0.3333	0.5484
GPA Prior to Enrollment	3.2515	3.1620	3.0788	3.2362
Female Students	0.7838	0.5200	0.1667	0.6774
Ethnicity				
White or Asian	0.5000	0.2000	0.5000	0.4194
Underrepresented Minority (Am. Indian, Black, Hispanic)	0.3581	0.4800	0.5000	0.3871
Other (Multi, Non-US, Unknown)	0.1419	0.3200	0.0000	0.1936
Age at Enrollment	36.4932	36.8000	41.6667	37.9355
US is Birth Country	0.7635	0.7200	0.8333	0.7097
Residential Distance from University (km)	624.9615	371.5133	360.9284	297.6350
Online Orientation – Overall Performance				
Bad	0.1824	0.3600	0.3333	0.1936
Normal	0.4527	0.3600	0.6667	0.6452
Good	0.3041	0.2000	0.0000	0.1613
Mixed (Elements of Bad and Good Performance)	0.0608	0.0800	0.0000	0.0000
5th Semester Academic Metrics				
Fulltime Status	0.5338	0.4000	0.1667	0.3226
GPA	3.7284	2.5568	3.3992	3.5882
Credits Attempt minus Credits Complete	0.2162	4.1600	1.6667	0.4516
No. of Credits Resulting in Failure	0.1014	1.6800	1.3333	0.1936
Ever on Academic Probation	0.0270	0.2400	0.1667	0.0323
Actual Semester when 5th Semester Academic Metrics were Pulled	4.9459	2.7600	5.0000	2.7742

[a] Interview Groups: SPG = Successful Predictors – Good, SPB = Successful Predictors – Bad, UA = Upward Achievement, DA = Downward Achievement

Table 11 describes the participants who were interviewed. Of the 19 participants, 16% (n=3) were categorized as "successful predictors – good standing;" 16% (n=3) were "successful predictors – bad standing;" 26% (n=5) were "upward achievement cases" meaning that they were in good standing but had been predicted to be in bad standing; and 42% (n=8) were "downward achievement cases" meaning they were in bad standing but had been predicted to be in good standing. Participants represented each cohort (fall 2010, fall 2011, fall 2012, fall 2013) and each major (applied epidemiology, applied public health informatics, healthcare outcomes, prevention science). Thirty-seven percent of the participants were university employees, 42% held bachelor's degrees as their highest degree, and the average years of work experience was 11 years. The United States was the country of birth for 84% of the participants, 37% were female, 53% were white or Asian, 37% were an underrepresented minority (American Indian, Black, Hispanic) and 11% were another race (multi, non-US, unknown). The average age at enrollment was 38 years.

Table 11

Sample of Interviewed Participants (n=19)

	Mean	Std dev	Min	Max
Interview Group				
Successful Predictors – Good	0.1579	---	0	1
Successful Predictors – Bad	0.1579	---	0	1
Upward Achievement	0.2632	---	0	1
Downward Achievement [a]	0.4211	---	0	1
Cohort				
Fall 2010	0.3158	---	0	1
Fall 2011	0.3684	---	0	1
Fall 2012	0.1579	---	0	1
Fall 2013	0.1579	---	0	1
Major				
Applied Epidemiology	0.1579	---	0	1
Applied PH Informatics	0.3158	---	0	1
Healthcare Outcomes	0.2632	---	0	1
Prevention Science	0.2632	---	0	1
Proximity of Submission to Deadline (days)	-6.4211	46.441	-117.00	77.00
University Employee	0.3684	---	0	1
Years of Experience	10.5263	4.6112	4.00	19.00

Table 11 continued

	Mean	Std dev	Min	Max
Bach Degree (vs. Beyond Bach)	0.4211	---	0	1
GPA Prior to Enrollment	3.2470	0.3882	2.36	3.97
Female Students	0.3684	---	0	1
Ethnicity [b]				
White or Asian	0.5263	---	0	1
Underrepresented Minority (Am. Indian, Black, Hispanic)	0.3684	---	0	1
Other (Multi, Non-US, Unknown)	0.1053	---	0	1
Age at Enrollment	38.0623	4.4347	31.00	45.00
US is Birth Country	0.8421	---	0	1
Residential Distance from University (km)	399.7636	544.76	3.31	1438.49
Online Orientation – Overall Performance				
Bad	0.2632	---	0	1
Normal	0.5263	---	0	1
Good	0.2105	---	0	1
Mixed (Elements of Bad and Good Performance)	0.0000	---	0	1
5th Semester Academic Metrics				
Fulltime Status	0.2632	---	0	1
GPA	3.6099	0.4080	2.56	4.00
Credits Attempt minus Credits Complete	0.8421	1.5371	0	4
No. of Credits Resulting in Failure	0.5263	1.3068	0	4
Ever on Academic Probation	0.0526	---	0	1
Actual Semester when 5th Semester Academic Metrics were Pulled [c]	3.4737	1.6114	1.00	5.00

[a] Two of the individuals who were randomly selected in this category indicated an *intention* to return to the program in fall 2015. It was questionable whether they were truly in the "bad standing" category and therefore, additional subjects were recruited for the "downward achievement" grouping.

[b] In the sample of 19, there were no individuals who were American Indian, Multi, or Non-US.

[c] The determination of good standing or bad standing was determined at the student's fifth semester of enrollment, except when the student was not enrolled for five semesters.

Reasons for Enrollment in Executive MPH Program

All Participants

Eleven[15] participants discussed their reasons for enrolling in the executive MPH program and they had a variety of reasons. Five participants enrolled because of the prestige of the Emory

[15] Only 11 individuals (versus 19) discussed their reasons for enrolling in the executive MPH program because not all participants were asked this question directly.

name, four enrolled because of the program's rigor, three enrolled because of the program structure (e.g., flexibility, amount of on-campus time), two enrolled because of the content and perspectives they would gain, and two enrolled in order to take advantage of Emory's courtesy scholarship benefit which provides up to five credit hours per semester of education for free.

> *Having a courtesy scholarship played a very large part in my decisions to apply and enroll at Emory.*
>
> *Emory is recognizable. The degree from Emory carries some weight.*
>
> *Typically speaking my expectation of a distance learning community automatically goes to something like University of Phoenix or something not very rigorous. However, the Emory name lends itself to an academic rigor which is why I chose the program, because I did not want a University of Phoenix type of experience. Not to take away from that. I know people who can get a good education but you really can't compare that to Emory. It is like apples to green peppers so to speak. You can't even compare it.*
>
> *Maybe I should mention the reputation of the program, of the school in general. Knowing that your MPH is from Emory makes yourself different in terms of the value of your degree.*
>
> *I guess my expectations were high which was just precisely why I wanted to be at Emory because I didn't want it to be a very easy experience. I wanted to be challenged and when you compare Emory's programs with other schools, I believe that Emory lived up to its name and the program was up to the challenge that students received or that they endured, but I think in that aspect I wanted to be challenged and I was challenged and I wouldn't have it any other way.*
>
> *My expectation was to make sure that I could continue with my current job and also maintain somewhat of a family life and spending just a decent amount of time on campus. … I think the other part of it was the flexibility of being able to learn when I wanted to learn. The top factor in going to Emory was because I could focus on doing an outcomes research concentration.*

Findings by Group

When findings were examined by group, there were no obvious differences among the groups. The various reasons for enrolling in the executive MPH program, were spread throughout the three groups where participants disclosed their reasons. No one in the "successful predictors – bad" group disclosed reasons for enrolling in the executive MPH program.

Expectations of the Executive MPH Program

All Participants

All 19 participants talked about their expectations of the program and the alignment with their experience. In most cases, the expectations were high and aligned with a rigorous experience. For those who commented on whether the program's online structure added to the expectation, most said the program's structure did not make a difference. In a few cases, individuals commented that they thought the online structure added an additional challenge.

> *My idea of a rigorous program is a program that is staffed by professors that are going to challenge me and hold me to a high standard.*
>
> *I thought that it would be intense just because it's a master's program and I guess probably some of that is from my preconceptions that that's harder than what I had done up until that point. So I think that I expected it to be very robust.*
>
> *I think I would say, a mix of rigor, in terms of hardcore math and science kinds of courses versus some of the other more exploratory general experience kind of courses. Overall I would say it was a mix when I look at the setup of courses that were part of the program.*
>
> *My experience was in fact commensurate with my expectation. The fact that it's a distance learning or online program did not make it easier and I never expected it to be such. As a matter of fact, one reason that I expected it to be a little bit more difficult is because it's online and distance based and it would be all the more critical to budget time for academic studies versus professional and family matters.*

Findings by Group

When findings were examined by group, there were no obvious differences among the groups. However, there may be a possible trend when looking at the relationship between expectation and experience. Although some participants in the "downward achievement" group had high expectations of their experience in the executive MPH program and these expectations matched their reality, in general, participants in the "successful predictors – good" and "upward achievement" groups tended to have stronger alignment between rigorous expectations and experiences.

Successful predictors – good. Prior to enrollment, one participant in this group talked about attending recruitment sessions where executive MPH students spoke about the program.

Therefore, this participant felt that she had an understanding of what to expect and she knew that some classes and semesters would be more challenging than others. For the other two participants in this group, one also expected mixed rigor depending on the course and the other was expecting a challenging experience, partially due to the online nature of the program.

> *I went to a couple of the sessions that were given with previous students and so my expectation of what … well, my knowledge of what to expect was definitely colored by the folks who were on the panel. I think that was actually advantageous because I think they told the truth – some classes were harder than others and would take more time – and they were very much correct.*

> *[I thought it would be challenging] … 1) because it was Emory and then 2) because I was not as technologically savvy at the time. I still wouldn't say that I'm completely technologically savvy, but I am definitely much more comfortable with online tools and things like that. I also thought it was going to be challenging for me because I tend to be a little bit more quiet, and shy, and reserved.*

Successful predictors – bad. All three participants talked about the program being intense but two of the participants shared that it was not academically challenging. For one participant in particular, he had previously taken public health courses and so the courses he took in the executive MPH program felt like refreshers. Another said that if you put the time into the program, you would do fine. The bigger challenge for these three participants was personal and included a return to school after 10 years, marriage and family that had not existed when pursuing previous degrees, and a busy fulltime job which left little time for school.

> *The intensity was pretty much exactly what I expected. I mean as far as the workload … I anticipated that intensity of work and I can't say I was surprised at all by the amount of work.*

> *I don't think that it was challenging like academically challenging. I think if you put it in the time, you'd do well. A part of my challenge was that I worked fulltime.*

Upward achievement cases. Three of the five participants in this group found their expectations of rigor to be consistent with their experience. In one case the participant took a class prior to enrollment in order to check out the intensity of the program. This same participant commented that some of the traditional courses she has taken have been easier than the executive MPH courses, giving the impression that she expected executive MPH courses to be easier and

less challenging. Another participant, who had experience with an online MBA degree, found the executive MPH program to be less intense than his prior online degree. The final participant shared that the challenge for him was not one of academic rigor but of balancing his priorities– family, work and school.

> *I actually took a class in special standing first, to see what the academic intensity would be and if I could handle it. So I kind of knew before I started.*
>
> *I have taken a few traditional classes over the course of my education. I have to say that some of the traditional classes actually have less work than the EMPH classes. I've been in the traditional class and there was hardly any homework, it was all lectures, fewer assignments and then there is a paper or a final or something. And then the EMPH classes I feel like you get thrown under the bus at times. I'm like, "really, all this."*
>
> *I expected the program to be rigorous. … I never expected it to be a walk in the park. I thought it was going to be very challenging, very rigorous. And in fact, it has been, which is not bad by any means.*
>
> *I think the issue I wrestle with is just devoting the time with the competing priorities of let's say working and also try to maintain some level of a family life as well. I think that was one of the concerns that I had going into it and my expectations was that it was probably going to be more challenging in the sense of once again, trying to devote the appropriate amount of time to learn the material.*

Downward achievement cases. Three of the participants in this group stated that they expected the executive MPH program to be rigorous and in fact found the program to match their expectations. In all three cases, the participants did not expect the online environment to make a difference in their experience.

> *When I signed on to the EMPH program I was expecting nothing less than what I would get if I were to be sitting down. That's the interesting thing too because a colleague of mine who did the program just raved about it and set the expectation like, "You are not going to lose anything from doing this." The expectation was high.*
>
> *I knew that the same professors that were teaching me online were teaching [residential] classes. Really that was my assumption, so I expected the same standards to be held for [the online environment]*.

One participant, who expected the program to be intense and robust because it was at the master's level, found certain aspects (participation, time to complete assignments) to be more challenging than anticipated.

> *I remember thinking it would be easier if I was in class, because in class you have a roll call. You may be a non-participant that day and just kind of taking everything in and you may never contribute but [in the EMPH program], some of the courses – I think the health policy course, you had to comment and contribute. So that drove up the volume of comments. So you had to do something periodically to show that you were there and engaged. Whereas in the classroom you would just see if a kid was sleeping or not. … But online you have to actually complete an assignment and say something meaningful.*
>
> *I think it was challenging not in the sense that this concept is beyond me, but in the sense that, "Wow! This is taking a lot time to do." … Yeah the time commitment was definitely a real eye opener.*

Another participant stated that he expected the program to be easier than his previous education (medical school) but in reality found the newness of the public health subject matter to be a challenge and so he said that the executive MPH program was not as easy as anticipated.

> *So my idea of it being easier … what I mean is I'm comparing it to going for medical school. So not because it's an online program, but the program in general. Whether I did it in Emory or anywhere else, I knew that it wouldn't be so tasking for me to complete. … [In reality] it was a challenge being a new subject for me, and informatics was something that I also have not experienced in the past. So based on that, it wasn't as easy as I thought it would be.*

There were three participants who found the program to be less rigorous than they had anticipated. In two cases, the participant expected the level of the executive MPH student body to be more advanced than it was. One of these participants was very disappointed with much of her experience in the executive MPH program, especially with the engagement of faculty. The third participant thought the program was much easier than his undergraduate degree, which was in the sciences.

> *I'm finding the online MPH to be much easier than undergrad.*
>
> *I felt like – just to put it very bluntly, I felt like the classes were catered to the lowest common denominator. … For some classes, I put in less than an hour a week and I'm getting A's with no issue. That's really not what I expected.*

Goals for Earning a MPH Degree

All Participants

Eighteen of the 19 participants interviewed indicated that their goals for earning an MPH degree related to developing skills and broadening their perspective, credibility, and/or a job shift.

For those that referenced a change in jobs, some were shifts within public health like the participant who worked in a public health program but wanted a management role; and others were changes to public health. For example, one participant was a bench scientist and wanted to leave the lab.

> *My goal was really – I would like to be in a management position at a city, county, or state level.*
>
> *I was really looking for a change of career. I mean, I'll be honest with you, I just didn't want to be at the research bench. I wanted to do something a little more good. I know it sounds very strange, not that science isn't good but it's lonely to be in the lab all the time. You publish a paper that maybe a lot of people will read the title but maybe 10 people will read the entire paper. You know what I mean?*
>
> *My goals for enrolling in the MPH, I think were two-fold or three-fold. One was to really immerse myself within an environment where I could learn about the topics relevant to healthcare in general and public health specifically. And then get a better grounding in the domain of informatics. It was also to sharpen certain skills within statistics and data analysis and to really capture a few additional tools that I hadn't focused on in my career to this point.*
>
> *So my goals were really to become more like a technical expert. In … how should I describe it? In health program analysis and evaluation using [epi] courses and others, to kind of evaluate the effectiveness of programs.*
>
> *My goal was to change jobs and yes, I've achieved it. I had gone as far as I could in my career with the degrees I had, and I wanted to take a sharp left turn. The fastest way to take that sharp left turn was to get a new degree. I got the degree … and I now have a new job.*
>
> *Oh my goodness, I think the goal was to get a master's degree in public health and it was just something that I always wanted to do. I wanted to walk away really with hands-on practical skills that I can take back into the field because I feel – or I felt at the time, that I didn't have those skills. I think being in the program … for me it was a great experience because it gave me all those practical skills and there are going to be skills that I am going to have to still work on. I don't think that I have mastered them quite yet, but at least I know what they are or what they look like … and where I need to improve, so it's always going to be a continuous cycle for me, and I am going to have to continue learning and doing other things on my own. But I think that it definitely met my goals. I think I have become more confident and I walk away feeling more confident.*

Two participants used the word "credibility" when describing their goals for earning an MPH degree and talked about the degree adding credibility to their skills.

> *My goal was to develop the academic framework to be able to engage in public health. So I knew some of public health by doing work with CDC …. And I could see the potential for me to do some of that same work at [current agency] but I couldn't do that*

> *because I didn't understand the vernacular. I didn't know the theories and the process. I didn't know anything about public health. So I thought I needed to develop that academic framework, that professional framework so I could engage public health in a productive way. I could have done some things on my own and kind of worked my way through it but I couldn't have been as productive and wouldn't have the credibility to the [current agency]. I can do these things, let's go do this.*
>
> *Yeah most definitely it was to give some credibility both to myself and the company that I was representing and by associating with Emory that did it.*

The one participant who did not speak of skills, a broadening perspective, or job change, just wanted the degree.

> *My goal was just basically get an MPH. It's been clear through my public health career that it would have been helpful to me in the past to get different jobs if I had a MPH – and it still would today. So that's the main goal – just to get a degree.*

After leaving the executive MPH program, this participant enrolled in another online MPH program. When discussing his goals, he continued the previous quote by sharing his goal of just getting the letters after his name.

> *And obviously I would like to learn a lot in courses and classes but both at Emory and [other academic institution] I'm not learning a lot so I am not worried about that anymore. I just want to get through it and get the letters after my name. Maybe that sounds kind of discouraging but that's just the reality … my experience.*

Findings by Group

All but one participant indicated that they wanted to earn an MPH degree to increase their skills and broaden their perspectives, so there were no difference among the four groups of participants.

Skills Prior to Enrollment

All Participants

When asked if there were skills that the participants possessed prior to enrollment that helped them, responses fell into a range of categories that included the following skills and perspectives: a) soft skills, b) organizational skills, c) healthcare and/or public health perspective, d) research skills, e) maturity, f) computer and technology skills, and g) other.

Eight of the 19 participants shared that soft skills such as leadership, interpersonal skills, communication, teamwork, adaptability, problem solving and conflict resolution, had been beneficial to them.

> *It is the ability to just manage different personalities and so it's those skills and I think it is more of those interpersonal skills that I had coming in, but I was able to use and helped me throughout this whole process.*

> *You have to be able to know how to lead. When it's right and know how to step back when it's time. I'm a natural leader. I'm just the one that people just say, "Hey you want to lead the group?" Sometimes you got to step in, sometimes you have to step away, that was a really good skill, learning how to work with a group and being diplomatic.*

> *I think being a consultant and traveling and working remotely and never really knowing where you're going to be. So, just having experience – being flexible with how I work, where I work, and just experience working with teams both with my prior educational experience and just the work that I do. … I'm very comfortable in those kinds of settings where things may be less formal in terms of an actual classroom like the traditional learning environment. So. … I just think that sometimes people in consulting have a little bit more flexibility, or just tend to be thrown into situations that are more random and less structured than typical kinds of careers. So I don't know if that's something you note but … I think that's something that's unique in my background.*

Seven of the 19 participants referenced the importance of organizational skills, which included project management, time management, organization, and study habits.

> *I think the main skill that helped me was my ability to organize myself because being able to work fulltime, travel sometimes, and stay in class requires a good level of organization.*

> *I think that having a skill set of time management was also extremely helpful in coming into the program.*

> *Project management type skills helped me juggle and multitask.*

Having prior healthcare and/or public health experience was cited as important by six of the 19 participants. Research skills–including information seeking, writing and presentation skills–were an important pre-requisite skill for five of the 19 participants and maturity was mentioned by four of the 19 participants as an important perspective.

> *I think having a career in public health for 8 years helped.*

> *Oh yeah, my whole background as a [healthcare provider] has helped … me understand public health and one thing I noticed was that I was able to help some of my colleagues*

that do not have a medical background, just understanding maybe some of the whys or some of the how's. I'm grateful because talking to some of the [other healthcare providers] in the group – we have a greater, I think I would have to say, I have a greater appreciation for the applicability of this stuff in a clinical setting.

Well, other skills that I think helped me, certainly, being in research but not necessarily the science research but research of any kind helps with preparing papers – the basic knowledge of how to put a paper together and how to put a subject together. … Some folks seem to have trouble just getting off the ground with the research. They might dive into looking stuff up but then have way too much. They didn't know how to filter. They didn't know how to narrow down what they were looking at … they didn't know how to focus on what they were doing. That's why I think some of my research background was advantageous as well, but research of any kind.

I was a professional scientist. I was a researcher. I know what research is, you know what I mean? … I would say that was sort of the biggest thing and that includes not just knowing what research and evidence means but I have presented at international conferences and I've written papers and I could write. So I definitely had a skill set that made it much easier for me.

Probably the biggest skill set that helped me out was just real life experience.

I think it's basic professional skills, things like being punctual. Right? So, turning in assignments on time, being in class, being respectful in class. Holding myself accountable for my work and not the professors. So, for example, if I thought there's a subject that I didn't understand well then my first thought was that, this is my problem not the professor's problem. I need to figure this out. Now, I could go to the professor for help. Right? But the burden was on me to learn the material. And so that type of attitude and just a mature attitude, right? I was in the program because I wanted to be in the program. Maybe I would have different motivations from a 22-year old in graduate school. But I didn't see myself as a graduate student. I saw myself as a professional going to learn skills that I needed to do a different job and to do a better job at what I was doing.

Only two of the 19 participants volunteered the importance of computer skills but if prompted, participants all agreed that computer skills–along with time management and organizational skills–were critical to success.

I mean those are pre-requisites like if you don't have those you shouldn't be considering the program.

By the time you're applying to a graduate program if you don't have time management kind of skills down, those are things that I think should really be learned and kind of tweaked at the undergrad level … I mean working at a restaurant should teach you time management skills.

I'm assuming everyone walking into the program knows how to use the Internet and a computer. If not then I think you shouldn't be in college at this point and you need to get

basic education on how to use a computer. I'm assuming everyone that applies for any college level program has that kind of experience.

Other skills that were mentioned by participants included having an open mind, having previously taken math and/or statistics courses, cultural diversity, and previous experience as an international volunteer.

Cultural diversity also is a skill … In the program you have people coming from everywhere on this globe and one of the first things that you notice is the way everyone speaks, It's quite different from each other. So, you have to be able to adapt to that style. You have to consider other people equal as yourself and also not feel intimidated by those who are well established in the culture. Yeah, I'll say cultural diversity is another skill that is very important.

I think being an [international] volunteer and knowing what 27 months felt like helped me in the sense that I knew I was going to be with this particular cohort for 27 months, and I knew that certain personalities and nuances were going to flare up and I think just knowing that and having those adaptive skills prior to coming in … I think that definitely also helped.

Participants were also asked if there were skills that in retrospect they wished that they had possessed prior to enrollment. Of the 13 participants who responded, four spoke about communication skills (writing, presentation skills) and three mentioned SAS. Other responses included epidemiology and biostatistics, math, qualitative research skills, social science perspective, and specific computer skills (diagramming, use of discussion boards).

I think to have more of a biostatistical knowledge and background would have made it easier for me in those courses. The only difference it made was that I had to work a little bit harder on those areas.

Anyone who had a social science background which I did not, had a leg up in for instance, the social behavior class. If you had a psychology class for instance, in the social behavior class, it would have made a bit more sense. I don't think it's necessary that you have the prerequisite. I just think that there were definitely people in the room who were more advanced than others coming into the class, but in the same regard, I felt the same way about biostatistics. There were lots of people [talking] about biostatistics and how hard it was, and I just kept my mouth shut because I thought it was the easiest class I'd ever taken.

I think…I would have preferred or I would have liked to not feel as nervous on campus when we had to do our presentations because I am still walking away not feeling as comfortable speaking in a large setting … but it is my presentation skills that I think I still need to improve. I think in this particular cohort they were very, very articulate and they had fantastic presentation skills, so again I don't know if I would have been in a completely different cohort if I will be saying the exact same thing right now, but as for

my presentation skills, I would love to have had better presentation skills coming into the program.

My analytical skills perhaps weren't always as great, as the ones of other individuals since there were times that felt like "oh my gosh, I really can't contribute to this conversation." Like looking an article … I just tend to read something and I just take it for what it's worth but then somebody else can read something and they see something that I didn't see from an article and they can actually make a conversation out of that whereas I can't do that. For me that is very difficult for me to do. I have to sit there and read it, mull it over, probably read it again, mull it over some more. And then other people, they don't have to struggle as much and it always takes me just a little bit longer to get to that point and I am sure that maybe I could get that point but I just can't analyze things as quickly as other people.

Findings by Group

When findings were examined by group, there were no obvious delineations among the groups. In other words, participants from all four groups discussed the importance of having soft skills, organizational skills, and research skills. Participants from three of the groups (all except the "successful predictors – good" group) mentioned the importance of having a healthcare and/or public health perspective prior to enrollment. Members of the "downward achievement" and "upward achievement" groups discussed the importance of maturity, while computer skills were mentioned by participants representing the "successful predictors – bad" and "upward achievement" groups.

External Factors

All Participants

Interview participants were asked about a variety of external factors (family and friends, employment, life events, finances) and the impact that these factors had on the participant's experience in the executive MPH program.

Family and friends. Of the 17 participants who talked about the role of family, 12 talked about the critical role of family support and cited examples of support they received which included helping with household duties, providing support for kids, making dinner, and talking through readings and assignments. Some participants gave examples of when family was both a help and hindrance. For example, one participant spoke of school and long hours at work causing

disagreements with his spouse, yet at the same time, his spouse was supportive and took care of him while he was locked away on the computer. Two participants felt that family support was not a big factor for them. Seven participants specifically talked about the impact that children had on their executive MPH experience, which included making more time to engage with family (e.g., help with homework, coach baseball, attend dance recitals) as well as the additional financial burden that was placed on the family.

> *So I mean family support is really important, but family can also get in the way.*
>
> *Family can help things just by supporting household duties. Those things can also be a hindrance in so far as the dynamic can be strained by the amount of time that one has to dedicate for academic issues.*
>
> *If it wasn't for my husband I never would have made it through the program. He was very supportive. He accepted more housework. He would on … weekends when I was trying to do work, he would make himself scarce. On week nights, he would bring me dinner at my desk. He did whatever was necessary to help support me. On the other end, my thesis was delayed due to the death of my [relative]. She was diagnosed with [an illness] and passed away six months later, but in those six months, I would spend a lot of time on the road going up to visit.*
>
> *If it wasn't for my wife in taking care of the kids when I'm away for study, I may have not been able to achieve what I did.*
>
> *I think my spouse and my mother in-law were the most helpful and it is probably because they understand how vigorous a master's program is…they just understand that it's hard. From my mother and my sister probably, my mother was very supportive, my sister not so much and as a result I haven't spoken to her in two years, because it was just very, very stressful to talk to her. … And so in my case it was a combination of the two, and so in that sense it was very difficult trying to juggle both sides of the family because one understood while the other side really didn't understand. … Family was sort of half-and-half for me, but I think it is very important because if you have family that is supportive and that they understand, it alleviates the pressure that you already have from the program itself. I think it just depends but for me it was the combination of the two – like some understood and some did not understand.*
>
> *On the positive side, you will find the support you need. Just encouragement, if you have the support of spouse and even children. I think on the negative side, there are additional responsibilities and so you still have to be the dad and still want to coach the baseball team and attend all of the ballet and tap recitals. So I think, it goes back to the other dimension and time management and in trying to figure out, when is the most appropriate time for you to allocate certain things. So, for me it was trying to do the family stuff and then I just stayed up later, I'll just extend my days.*

I have to plan and think a little different since I have family and kids and kind of work around that. One good quality is that we're all doing homework at the same time, so we sit down and say hey dad's got homework, kids got homework so let's all get it done.

I've had moments – where steady, stable, nobody is having any issues and then moments were my child was acting out or something and I had to go deal with it. It unfortunately, does affect your school work because really when you are in school and you are working fulltime, I think you are already kind of stretched, almost as much as a person can stretch. When you have family issues or situations that come up, sickness or whatever, then you – it can take a toll.

It became actually quite challenging to handle all three areas meaning my professional work, family life and then also with regards to the executive program.

Of the 11 participants who talked about the impact of friends on their school experience, all but three had only positive comments; two had mixed comments about the role of friends and one was neutral. For those who had positive experiences, their comments centered on friends that were in the executive MPH program, in another degree program, or friends who had no educational connection but were just supportive.

Oh, friends definitely help, especially friends in the program. There is a certain level of "misery loves company."

The relationships I formed with three or four of the other students were just key. People you could lean on that were sharing the same experience, who also have families and were professional and we just formed a nice study group for two and a half years and that's absolutely important.

I had a friend who was doing an MPH [at another institution] so it was kind of fun to talk to her about what she was doing.

I have a friend who is also doing her masters, she goes to [institution] and one of the things we decided to do every semester is at the end we go and hang out to celebrate that we made it that one semester. … We go do something fun and talking with her helps both of us realize it's not just us going through what we are going through.

I know friends are important but family, I think family is critical.

Yeah in an ideal world that would be great and [friends] just need to realize that there is light at the end of the tunnel and this is a journey that their friend wants to go on. It is important for them on a personal level but also in their career and you just need to be supportive. I think sometimes when people are not supportive, I came to realize, that it comes from a place of insecurity on that other person's part or a lack of understanding or a true lack of friendship.

Friends as well are very supportive. … It does mean that sometimes on the weekend I can't go out with friends because I have school work to do. So it does affect social life a little bit but that is just true for school no matter what.

Employment. When participants were asked to comment on the impact of their employment on their school experience, seven participants made comments about no support or a lack of support from their employer while six participants commented on tangible ways that their employer supported them (e.g., tuition reimbursement, travel to on-campus, time off to attend on-campus). When finances were discussed in a later part of the interviews, there were an additional six participants who disclosed that they received some form of tuition reimbursement from their workplace–making the total number of participants who received tangible support twelve (not just the six who discussed it here). In addition, six participants commented on demanding jobs or changes in their job that affected their executive MPH experience. Four participants made comments about keeping work and school separate while another four spoke of proactively aligning their executive MPH experience with their employment.

When I first started the program … I was doing contract work from home so I could basically hit my own hours and I was able to take three courses. … Then I got a job and moved from [state 1] to [state 2] right in the middle of the semester. … That last month was very difficult because I was attending three classes while I was starting a new job so that was obviously very difficult which I had not anticipated at the beginning of the semester. So for me the biggest external factor was an employment factor and moving from [state 1] to [state 2].

I received quite a bit of support from my work. One of the major ways is that my company had a fantastic reimbursement program. The other part of it is that with my work, they were understanding and included this in my development plan at work so there was that recognition that this is something that I was working on.

So, I had a very specific purpose for engaging in the program. Knowing that what I was learning, I was planning on using. And every class I took during my program, I've used. I pulled out old notes and textbooks. And because of the type of public health environment I work in, where I'm like a generalist. … So, that being a factor, there was no class where I said, "Well I just need to get through this." It was, "I need to pay attention and make sure I put this down somewhere, so I can refer back to it over the next ten years, while I learn my trade."

Life events. When asked about life events and their effect on participants' experience in the executive MPH program, seven participants discussed various life events, both those that

were happy (e.g., marriage, improved health) and those that were sad (e.g., serious illness or death of loved one, own health condition, child-related concern). Participants described a variety of effects to these life events including increased motivation to pursue the MPH degree, slowing of coursework or program requirements, and increased feeling of support.

> *A friend of mine died, so that happened and that kind of affected me emotionally. I suffer from clinical depression and so I have episodes now and again very unpredictably so that definitely affects everything.*
>
> *My thesis was delayed due to the death of my [relative]. My thesis advisor, on the other hand, when I sent him a note and said that I was putting my thesis on hold because of my [relative's] condition, responded with a one line response of "your priorities are in order," which helped more than he knows.*
>
> *[My mother's illness] made it more difficult but it also resulted in me getting more determined to complete the program.*
>
> *I didn't know I had a serious health issue or how serious it was. It was affecting me and I had been thinking I was handling it, but it was getting worse and the way it was affecting me was anxiety.*
>
> *I got married at the beginning of the program and that actually was helpful and has been helpful for me [because of the support it provided].*
>
> *I have a … child who is having some difficulties. … It unfortunately, does affect your school work.*

Finances. Of the 18 participants that commented on the role of finances in their executive MPH experience, 11 participants spoke of the high cost of the executive MPH program. The seven participants who downplayed the role of finances were individuals who had proactively planned for this expense or had assistance in paying their tuition (e.g., courtesy scholarship, other workplace reimbursement).

> *Well, I mean my tuition is paid for so that was great although I did have to pay taxes on it as income. So that was kind of a little bit of a bummer but the tuition was paid for so that was nice.*
>
> *I started off as my company was covering some of it, well, most of it, and then I changed companies during the course and then the company wasn't contributing anything to it. So I was paying out-of-pocket – kind of that full price. … The worst part is probably just how expensive it was. It was the worst part because that caused me not to finish.*
>
> *I used the GI Bill to pay for school. So, it was all free. I had to pay for the things – plane trips and hotel room. But compared to the overall cost of the program, that was minimal.*

> … *Thinking back, this cost the tax payers fifty thousand dollars. Right. And that kind of puts the burden on me to make sure I use that appropriately.*

Three participants talked about the need for financial aid and the challenges they encountered which included not understanding that they had to take a certain number of courses to qualify for financial aid, having to take more classes than they were prepared to take, and/or having to take extra (unneeded) courses to qualify for financial aid.

> *When I first started I wasn't sure how many classes to take at first. One thing I didn't realize was to get loans you have to be taking at least three classes so that was something I hadn't realized. So I did take three classes that first semester so I could get the loans, otherwise I could not have gone to school. And then of course the second semester when I was working fulltime I knew that I wouldn't be able to also do three classes at the same time because it would have been just too much extra work outside of employment. So I just took one class and of course had to pay that on my own. That was one reason I left the program because it just costs too much and I didn't realize those loans would only cover if you were taking a minimum of three classes or more.*

Five participants spoke specifically about the courtesy scholarship benefit offered by Emory University. Of the five, four indicated that they would not have enrolled in the executive MPH program if courtesy scholarship had not been available. Three would not have been able to afford the program and one would have looked for a program with a major that better matched her interests and had a structure that provided more faculty lectures. One participant, while praising the existence of the courtesy scholarship program, felt that Emory managers did not get it. This participant felt that if supervisors granted permission for employee participation, the supervisors should also understand that executive MPH participation would add to the employee's load.

> *I think when a supervisor approves you to go into the scholarship program and take classes, that there should be some understanding from them that this will add to your total load. I'm not saying that they should make so many concessions that the work doesn't get done, but they should understand there may be times when there's a crunch. I don't think my boss really got that and I know several people who changed jobs while in the program because of that sort of lack of support.*

Findings by Group

When findings were examined by group, there were no obvious differences in the groups when looking at the impact of family and friends. Participants from all four groups discussed the

importance of family support and the impact that children play when trying to balance family and school. Participants in all four groups also spoke of the supportive role that friends play. In a couple of cases, there were examples of the bifurcated role of friends, where they can be both supportive and not, and these examples were from participants in the "successful predictors – good" and "upward achievement" groups.

When the impact of employment was examined, participant experiences can be categorized into positive (e.g., tangible support received, alignment of work and school), negative (e.g., little or no support, demanding job or job change), and neutral (e.g., separation of work and school) groups. While all four groups of participants had individuals who identified negative support from their place of employment, the "successful predictors – bad" group was the only group where the only support was negative and there were no examples of positive support discussed.

Participants experienced both happy and sad life events. Experience with life events does not appear to distinguish participant groups. None of the participants in the "successful predictors – bad" group discussed life events but participants in the other three groups shared examples of sad events that affected their executive MPH experience. Positive or happy life events were shared by participants in the "downward achievement" and "successful predictors – good" groups.

Finances appear to be a distinguishing feature among the four groups of participants. Within the "successful predictors – good" group, all three participants, were thoughtful in their planning for the expense of the executive MPH program; four of the five participants in the "upward achievement" group had financial assistance from employers or other sources. In the "successful predictors – bad" group, two of the three participants cited finances as a reason for leaving the program. Similarly, the in "downward achievement" group, six of the seven participants who commented on the role of finances, talked about the high cost of the program. Four explicitly stated that finances had a primary role in their decision to leave the program.

This section will further discuss the impact of employment and role of finances in each of the four groups.

Successful predictors – good.

Employment. Two of the participants in this group talked about a lack of support from their place of employment while the third participant talked about how he proactively aligned school work with his job.

> *But the problem is that work time is not 40 hours a week. Work time is until work is done and that makes … trying to do anything beyond work more difficult.*

> *I think work has been perhaps one of the most negative aspects of it, because they just didn't understand. I think working in the government you have a lot of flexibility with accelerated work schedules or where you can pick different types of tour duties, and I think when you have supervisors and colleagues who don't want to let you use those mechanisms in order to succeed at work and also succeed academically, that is also very challenging. Because you are constantly being watched to make sure that you are not reading an article here or there or answering an email or a text message, so I think that was also extremely difficult. … It almost seemed like I didn't have anything to do and my work load was very minimal at the start of the program and then once I started the program it was like let's see how much she can handle, and so they just started piling it on at work, and to me that wasn't fair, and it almost seemed like it was being done out of spite. … I would wake up and I would feel stressed and my stomach would hurt when I would go to work. Then I would come home and then I'll feel more stress. It's like the stress just never ended, it wasn't because of the school work …. So lots of understanding from work [was needed].*

> *I think, what I tried to do is, align the study track that I'm focused on with the work that I either want to do, or that I'm doing and so, the gap between what I'm doing and what I'm studying is small as possible.*

Finances. The three participants in this group were all proactive about how they paid for their MPH degree. One was a university employee and therefore took advantage of the courtesy scholarship benefit, one saved money for the degree, and the other was thoughtful in his use of loans and out-of-pocket payments.

> *[If courtesy scholarship was not available,] I couldn't afford it. I might have tried to do a similar program at a different institution, but I could not have done it at Emory. It's just really expensive. At the same time, am I glad I did in Emory? Yes. Emory is recognizable, the degree from Emory carries some weight, and my new job is with my thesis adviser.*

> *It wasn't a problem for me. I had saved a lot of money in my 20s for graduate school and so in that sense I did not feel the financial burden. So I have always been very frugal*

about my money and in a way it sort of paid off … but then again, I had made it a point many years ago that I was saving for a master's degree and so that was my goal. I did not have that financial drain that others might have had.

I think that's another thing and it plays a big role. I would think it's something that you need to plan for and take seriously. … And I think taking out loans and all of this, you want to make sure that what you're doing has a return, and you know where you want to apply it and how it could move you forward. For me, I did use a mix of loans and out-of-pocket expenses.

Successful predictors – bad.

Employment. The three participants in this group, all talked about demanding jobs and/or a lack of support from their place of employment.

A part of my challenge was that I worked fulltime. I don't think I got a lot of support from my job in doing this I mean they knew I was doing it but that was about it. It wasn't like they said "Hey this is important to you. Here's some extra time" or even any non-clinical time to devote to this. I had none. I was really working a full academic crazy schedule with no non-clinical time off and so trying to factor that in.

Another external factor that significantly hindered me was my employers' encouragement and support to complete the program. I kind of ran into issues where I had verbal support but when it actually came down to it … there was a weekend in the semester that I ended up leaving. They couldn't find coverage for my shift. Basically I was threatened with my job if I didn't show up to work. I wasn't able to come down to campus that weekend because I had to work and couldn't find coverage.

Finances. Two of the three participants in this group, cited finances as a reason that related to their non-completion of the executive MPH program. The third participant was an Emory employee and took advantage of courtesy scholarship so that finances did not play a role in her experience.

I couldn't afford it on my own without financial aid. So being in my job, the job salary was not big enough for me to provide for living expenses plus school. That was a hindrance. Now if I had a way to get a position that was you know – the salary was more, then finances wouldn't have been an issue.

Upward achievement cases.

Employment. When participants in this group discussed the impact of employment on their school experience, comments included one situation where work was not supportive and four situations where work was supportive in tangible ways (e.g., travel for on-campus weekends, time off for on-campus weekends, tuition reimbursement, inclusion of school in professional

development plan). One participant discussed keeping work and school separate while another talked about aligning work and school. Two participants discussed changes at work that affected their school experience. In particular, one participant went from a very supportive environment to the loss of his job when new leadership came on board and no longer provided the tangible support previously given.

> *My professional life was somewhat of a hindrance simply because although I'm in the [division] at Emory they don't recognize distance learning as contributing to your professional development so there is no time support provided.*
>
> *I think in general I have support from my department. Everyone knows that I'm in school. It's more of the moral support – like "yeah for you" but it doesn't cut back on your responsibility in any way. In terms of me being gone on the weekends they don't give me any issues with that.*
>
> *In my work environment, I'm allowed to spend time on this. So that took away a lot of guilt about spending time away from my family, that I could make it part of my regular job to get my MPH.*
>
> *In my situation, I had very unique support from my employer in the sense that they allowed me to fly internationally to come to the on-campus session. This was very unique. My job was based outside of the country and the contract stipulated specific days that I can take off, but because I was in the program, I was able to distribute them and they agreed to not just take days off but to cover my flight to come to the classes.*
>
> *The company that I work for there has been some challenges with regards to resourcing and my workload here has been on a little bit of a rollercoaster ride. It doesn't seem like there have been too many valleys at all and so the way I have always approached … my work and education – and also family, is that try to make sure that family is taken care of and then my work and then whatever else I am going to be doing.*

Finances. Four of the participants in this group had assistance paying for the executive MPH program in the form of courtesy scholarship, reimbursement from an employer, or assistance from the Department of Veterans Affairs. One individual spoke of the difficult time he had securing financial aid because he had to take additional courses to qualify for the aid. He also described a situation where he was treated unkindly by the university financial aid office.

> *If I wasn't an employee [I would not have enrolled in the program]. I just don't think I could have gotten into that kind of debt. I'm not saying that I wouldn't have ever gone back to school but having courtesy scholarship played a very large part in my decision to apply and enroll at Emory.*

[Finances] played a little bit of a role at the very beginning. It played a bigger role in the selection of Emory. … So the top factor in going to Emory was because I could focus on doing a [specific] concentration and the second thing was with regards to overall cost with the program. … My company will reimburse to a certain point but after that then it was up to me. In the initial selection it played a role. … As I was going through the actual program [finances] didn't play as much of a role like I said. I was very fortunate in the sense that my company was offering a very generous reimbursement package. The other part of it that my company wouldn't pay for – let's say travel or even the lodging, but I could get cheap flights – direct flights from [city] to Atlanta. The other thing is that there were really cheap rates with regards to Courtyard Marriott that Emory had set up for the Executive MPH program. And so like I said as far as finances, it didn't come into play as a major role in this particular program.

I had a difficult time financially through this program. It's pretty hard for me to get financial help – to get a student loan, because I have to take three classes and at some point, I didn't have to 3 classes to take at all. So I have to go out and pay tuition myself.

Downward achievement cases.

Employment. Seven participants discussed the impact of their employment on their executive MPH experience. Once stated that work was not supportive but two said that work was supportive in tangible ways (e.g., tuition reimbursement, time off to do school work). Some participants discussed the busy nature of work and the challenge of adding school to an already busy schedule. Three participants discussed job changes that impacted their school experience and two were able to leverage school and their employment.

I think they were definitely supportive and it was good for me career-wise to do that. There wasn't necessarily anything they had to do support-wise because I was doing my school outside of work and on the weekends. So then my employment didn't really directly affect my school work in any way but it does look good that I was in school and it shows initiative and then I am trying to advance my career so that maybe helped when I interviewed and was given the position.

[As a faulty member] I had a lot more freedom and I could come in in the morning and before I started [work] I'd spend 25 minutes on a little epidemiology. … I definitely had that freedom whereas if I were a staff person, I might have had to be a little more coy doing something like that.

Pretty much the only support I would need from work is … courtesy scholarship.

During the course of the first semester, I took a promotion and a lot of additional responsibilities and so ... I didn't really have time to commit to [school] anymore and thought that it may be beneficial for me to do it, in a year or two but unfortunately, the job never really allowed it from my time management perspective.

The rule I learned early on that I applied in class was whenever you have too many jobs combine them as much as possible and so on. So the assignments I combine into work stuff and work stuff I combined to the assignments and vice versa.

Finances. Of the seven participants in this group who commented on the role of finances in their experience with the executive MPH program, only one indicated that finances played no role because his employer provided financial assistance. One participant viewed the degree as an investment, six spoke of the high cost, and four indicated that finances had a primary role in their decision to leave the program.

I had some financial assistance from my previous employer which helped pushed me over the edge to like make the commitment to be honest with you. That was a plus for me.

Emory's not cheap but I know it's worth every penny. It's an investment, I look at it as a business investment, when I talk to my accountant, I'm like, "Hey, is it a wise investment? Should we write things off and he's like yeah" I have my accountant working with me on this … This is like really part of my business model. Finances will have to work. I'm going to make them work.

I left Emory University so I couldn't continue with the program. Big external factor was financial. I could not afford to pay tuition to continue the program, so that was a big strong factor.

Internal Factors

All Participants

Interview participants were asked about a variety of internal factors (e.g., connection to faculty and staff, connection to fellow students, connection to the program and/or university, experience at the on-campus sessions) and the impact that these factors had on the participant's program experience.

Connection to faculty and staff. All 19 participants talked about their experience and connection to program staff and faculty. Eight participants had mixed experiences, while seven relayed only positive experiences, three had negative comments, and one was neutral. Positive comments related to personal connections, faculty responsiveness and the quality of the faculty.

Yeah, I would say overall, my experience with the faculty was excellent. I think that the professors that I had were very solid experts in the field.

I have to tell you, I absolutely had a fantastic 1st semester. [Faculty 1] and [faculty 2] just absolutely loved them. … I worked with [faculty 1] on a side project. The company I was working with, we hired him on to do some work. [Faculty 2] was awesome. He invited me to [place of employment]. We spent some time together and he gave me some tips on publications and stuff.

The best part of the program was, probably just the access to the professors, who were experts in their fields, knowing what you were getting – quality instruction.

Everybody was really very open and very supportive and always answered emails and were very helpful. … It was very positive I have to say and what I really enjoyed about the instructors for just about all of my classes was it was obvious that they were current professionals in their field. The relevance that they could convey to us was really great and the "new public health" kind of attitude. I really got this very nice inspiring "let's just keep trying". Let's just keep trying new things until we find something that works because some things work a little and some things work a little bit more and nothing works perfectly and let's keep working at this. With very few exceptions, I think that the faculty are a really strong part of the whole program because of the relevance that they can give you that they're in the field and can really convey the real deal, what's really going on.

I think that maybe the way we acted in class was very motivating for them [faculty] as well. We paid attention to their homework because we are older and more mature and we really cared about the stuff we are learning. That's what I think. I've been a teacher before, not fulltime but teaching classes here and there – and having motivated students makes all the difference in the world.

[I went to a conference] and some of the professors were either presenting or attending as well. I was able to meet and have more informal conversations with them. So when we were in class, you kind of feel like you already know them.

[Faculty member] understood what she was teaching us was a little different and that most of us didn't have the background to really follow some of it. But again, she led us through it in a way that helped build it. By the end, I thought I really had a decent grasp on it. I think that's one of the things that really to me tells me the quality of the instructor. Did I have a decent grasp on the stuff when I left? … Most of the instructors, I really did. A couple of the classes I felt like I had a better grasp because I spent more time, but for the most part, I felt the professors spent more time and helped me get there. I realized that a lot of them were working as adjuncts, so the time involved makes a difference but how much they cared about the subject came through.

I appreciate the fact when you've got good people in the right positions and how critical that is to a successful program. That's why I got so much out of the program – it's because of the professors – strictly that. Everything else I can deal with and strictly, anything else I can deal with. Travel to Emory. Technical issues with Blackboard and computer things. Not liking a textbook. Or whatever. A good professor is the backbone of the program.

Participants also commented on both the difficulty of developing relationships in an online program and the collegiality that existed between faculty and students.

While I do like the interaction on discussion boards, I feel like the distance component doesn't really give you the chance … to develop one-on-one relationships, like getting to know people every week in class. And that's something that I would have preferred because there are a lot of good people in the school of public health to know, and I really wish I had the chance to know some of them better and for them to know me better as well.

I think the things that they did. They treated us like adults. I mean they didn't treat us as students. People were pretty personable and if there were discussions after class some of the faculty and instructors just sort of openly approached us and engaged in conversations or just asked about our personal lives and how things were going. I definitely felt a connection with everyone there because of that.

For the professors, I think the general statement is that I felt like I was treated like a colleague and not a student. I've never felt talked down to. It was a friend who wanted to share what they knew to help you to learn something. This feeling of mutual respect that the professors knew that they were talking to other professionals.

I guess the difference in my experience in this program compared to my experiences in my previous professional degrees … I truly felt like a student in my prior professional schooling experiences versus this time around. I felt as though I was treated as a colleague as opposed to as a student.

[Faculty] use our first names and ask us to use their first names. Some professors are more personable than others. Yeah. One professor just wanted to keep it at a professional academic level. And still in the classroom, it was very well done. But there was nothing outside of the classroom. And one or two professors were unapproachable outside of class just because they're so busy.

One participant commented on her lack of close relationships with faculty and staff but felt that this was due to her own behavior since she did not proactively engage with faculty or staff unless she had an issue to resolve.

I don't have a close relationship with a lot of professors – or with any of the professors, but I don't think that is because they weren't approachable. I just think it is because maybe I didn't make it a concerted effort to keep in touch with them or to email them throughout the semester. I would really only reach back to program staff if I needed clarification or if I was just stuck … but again it wasn't because program staff wasn't approachable. It is just things were clear for me so I never felt like I needed to be babysat anything like that.

Some participants shared either mixed or negative experiences with faculty. Others made comments about unrealistic faculty expectations.

Some of the other faculty held themselves apart and I don't think that's necessary when your students are adults. We're peers, essentially, working towards a common goal. So, there isn't really that teacher-student separation that needs to happen. I think some of the faculty could be more approachable. I think it would help, not necessarily students

like me, but the ones who are shier and less likely to approach a professor, will see that gulf between student and professor and have trouble crossing it.

What a delightful man and what a skilled teacher. He's got that gift of being able to teach but also kind and very personable. He would stop us in the hallway to say hello and ask us how our families were. He of anyone, made me feel like a colleague. Like another adult. His class was fun and very challenging. I struggled towards the end of the [class]. … And the biggest challenge and my worst memory was our [topic] class. I think our professor there was not skilled at being a professor. Might be a great [practitioner]. … I don't think she put a lot of effort into the class … but it really put all the burden on us to learn and it was a brand new topic for me.

Overall I was very pleased with the quality of the instructors. Without naming names, I did feel there were one or two courses where I did kind of feel as though this is definitely added on to an instructor's plate and they had other priorities.

Our [subject matter] class was a little bit of a fiasco … it was just kind of like mass chaos but I still learned a lot. I'm going to tell you I learned a lot because that's what I do. I don't just spend money on something. I'm going to get my money's worth. I don't care if I'm just going to read a book and get the best out of the book and ask my professor a couple of questions.

Overall I think there's an opportunity for growth in terms of the level of service for online programs and online students.

[I was] disappointed in the classes. Just the fact that I didn't feel like I was learning all that much. I don't know if it was because of the classes or because of the format – probably a little bit of both.

I think some of the deadlines are too tight for some of the classes for the amount of work.

Some professors are very engaging and very interesting but then there are some professors that are not so exciting or they give a lot of work. I'm not saying there shouldn't be a lot of work but sometimes I wonder if they realize that we are still fulltime employees. … I just think that they should be considerate of the fact that when you are a working professional – probably fulltime, that you only have nights and weekends. You can't count on being able to do any of your work during the day. I've got evenings and I've got to sleep at some point and then I have Saturday and Sunday. That is when I am getting my education.

One individual relayed a negative experience with a non-executive MPH faculty member that colored her perception of the program.

I tried to reach out to one of the faculty members in the school of public health [non-EMPH] because of my interest in [topic] …. And I have to be honest, it was a really negative experience. … Not impressed 100%. Didn't respond. Would be really excited and then never responded. Not supportive. Unless you were doing what he wanted to do, wasn't really interested. … I think that if that had been different and I'd seen a future in being involved or something like that, it might have changed my entire impression of the program. But that was a real negative and he's a real big wig.

Another individual in particular felt that faculty were not engaged and did not care about the learning process.

> *So, for someone with a history in public health, I didn't feel like I was learning anything. I felt like I was overpaying and I felt like I was coming to Emory to spend weekends there just to have teachers read me the syllabus. And then people would ask questions where if they just read further in their syllabus they would know the answer. So it was just, it was – sadly so below my expectations that I mean I'm not sure that I can put it to words. … I mean there were some professors who actually changed the syllabi and took things off that I'd been looking forward to because they felt it was too difficult for the class.*

> *I felt like with the exception of [faculty member] most of our professors were very uninvolved and uncaring. I felt like most of them were focused more on the students passing regardless of whether there was understanding or regardless of the difficulty of material presented than anything else. The [specific class] was a little different whereas I don't think the professors cared about anything other than getting through the semester in one piece.*

Furthermore, she went on to add:

> *And with [faculty member] what he did, he actually challenged thought processes which is what I had expected and had anticipated would be the case with all of my classes and which I now see at [another institution] on a regular basis. You know he didn't just read the responses of students given on discussion boards. He actually got involved and said "what about this?" He challenged us to play devil's advocate to one another. … He let us kind of keep going with conversations even if they were a little off and then he made the adjustments so to speak to bring us on track. He did a great job of that. And with him, the on-campus time was not wasted. He was the only professor I felt like the on-campus time was not a waste.*

Right before this participant left the executive MPH program, a faculty member submitted an allegation of possible cheating, against the student. It was found that there was not sufficient evidence to proceed with a case. In her interview, the participant referenced this situation.

> *I'm so glad in retrospect that it happened because even though nothing ever came of it because there was nothing there, it made me really realize how much I disliked the program and how I wasn't getting anything from it. Yet I was giving so much energy in terms of the frequent travel and so much energy in terms … so much money. That it just made me reevaluate that and realize that even though, yes even though I'm now a year and half behind where I hope to be MPH wise.*

Program staff, including the instructional design team, were overall viewed as very helpful. Like the faculty experience, participant experiences with program staff varied. One participant talked about the support received during his thesis process, while another shared a

negative experience, where he dropped two courses that resulted in a grade of WF, which was treated as a failing grade and affected his GPA.

> *Program staff, for the most part, were incredibly responsive and it almost seemed like they made it their life's mission to help, because sometimes you'd be frazzled and didn't know what to do and they're like, "It's okay, we'll solve it." The instructional designers, especially, made such a difference during this semester. Because some of the faculty really don't know how to deal with Blackboard. The instructional designers solved all of those technical issues and faster than I would expect them to be able to with long distance.*
>
> *During my thesis, I just had a total graduate student melt down. [My thesis chair] was messing things up for me. I got really angry and the response I got back from you and whoever was like, "Don't worry about it." I finally figured it out, what I needed to do and I felt guilty for having this panic attack. I was immediately forgiven by you and your staff – "Don't worry about it."*
>
> *I didn't know how that drop will affect my grades. So, I ended up having a WF in two classes. It dropped my GPA from like 3 to 2.2. If I knew that it was too late to drop the classes, I would have persisted maybe to get a C in particular class. No one was here to advise me.*
>
> *Program staff, yeah. I think program staff was excellent. I had asked for help in terms of getting in and out of classes at different times, like getting registered and I wasn't always on time and just flexibility and being able to take electives. I felt that it was a pleasant experience for me. Even from the very beginning, being able to submit my application sort of late … and still being able to able to get it through. All the way throughout the program I have a good experience there.*
>
> *I feel like all of the staff is very supportive and encouraging. Understanding because most of us were not traditional students and everyone had a different story, different things happening. I felt like everyone tried to accommodate or give us the resource to help us navigate through the program as much as possible.*
>
> *It hasn't been very pleasant. The program coordinators and staff in my opinion have not been very responsive when you send an email or you have a question. I would imagine they would be a little bit more since the program is online – that they will be very quick and very responsive. In particular when it came to exam checks and homework checks if you had a question like what was the problem here or why was the point deducted. Rarely do you get any response so I had different expectations. … As far as staff, my personal experience like when you send an email or call someone at the office, it's been the same as well.*

Participants also commented on coursework and the applied nature of many of the assignments.

> *So I think that the assignments that were given to us were on par … how to write a grant, for example. To me that was a great class, because it took all semester long to write a grant or the community needs assessment. I think a lot of people were overwhelmed by*

those classes and I just found those classes absolutely fascinating. … Yeah because you walk away like, "Oh my goodness I know how to do this" and it is like you can now go off into the world and you can do it and it's great and that's the joy of seeing all your hard work. That is sort of manifested in these documents that are 1) practical and 2) they are tangible and so that's the joy of seeing all your hard work.

The course work I believe was the best part of my experience. I mean I learned a tremendous amount of information in the short time that I was enrolled in the program. I developed a new skills set and confidence in my capabilities and understanding of study designs, statistical analysis, methods, and interpreting data. Again being in the health care environment and just having that application exposure I think was one of the best things for me and I really appreciated it.

One of the things that I really enjoyed about the program, was that the majority of what I was learning I could basically just turn around and sort of apply it to a job that I was doing, so it had real – almost like real time, application. [Some of the courses] helped me bring a new type of perspective – even back to our company, about how we wanted to do certain types of research.

So, I think with faculty, the courses where faculty made themselves available, either like office hours, or other than just maybe offline posting questions, I think those were more meaningful. So, for example, [faculty member] hosting [office] hours. I think that was one of the best examples of making yourself available [and the content] needs more of that.

So I think there was a fair amount of reading material. The amount of reading that we have to do was not overwhelming. I think a lot of individuals might have felt that it was overwhelming but I thought it was just the right amount. This is a graduate degree program, right? … I mean you are here to learn. It shouldn't be watered down at all.

I think some of the courses, some of them were newer in nature I would say. I could tell that they were their initial round of development. I think I had a positive experience in most of the courses. There were just one or two … that you could tell [were in early stages of development] and sort of needed one or two more iterations through to test them and learn what to do.

I guess the only difficulty I had was in the biostats class using SAS and I remember they said it wasn't going to be a class in SAS programming but I would beg to differ because it really had a lot of SAS programming to answer the questions and I had a lot of difficulty in that trying to get help. It's hard to keep postponing the learning process while you are waiting for an email response from an instructor. The communications I guess were okay, but they [faculty] were always busy and most of the time I was doing my work at night anyway so I didn't expect them to be responding to the question right away because they are probably not at work anymore.

Connection to fellow students. All 19 participants talked about their connections with other students in the executive MPH program and many shared positive experiences they had with other students.

I think the true benefit of an executive MPH program is having executives in it. It makes the learning environment so different and so much more productive than what I would imagine a regular graduate school program would be.

I also met some of the most fantastic wonderful dedicated people I had ever met in my life in the program as my fellow students.

It's a select group of people who are already working in the field.

I have a very positive connection with students. I am still in touch with some who have already exited the program. I had a very good connection with them when we were in the program together.

The best part that I look back on now is the time spent in Atlanta with other people and going to classes together and the time spent outside the classes hanging out with people and going out to dinner. It was nice to meet other people that are on the same track and excited about school and getting an MPH. I really enjoyed the social aspects of it because it was motivating.

I enjoy the onsite classes and the events that you guys had for us and stuff. So it was very helpful to get to know your teammates in your classes and find out people's strengths and weaknesses. Just to get that face-to-face interaction; that was very nice. I was very appreciative of that. You met people from all over the country, other countries, and different industries.

Comments were also made about the rich diversity of the executive MPH student body.

The student population is incredibly diverse. Racial, economically, gender, and every diversity you can have, we saw. … I think the diversity of the student population made a big difference in what we got out of the classes, because so much of the work was group work, and so much of the online discussion was group discussions. The diversity of the students – both with just straight out diversity, but also diversity of backgrounds, diversity of jobs, diversity of knowledge – really made some of those classes come alive.

I mean it was funny being a white male. I'm the minority. That's interesting because I mean I will just say it – that is not my experience as a person in America. … I celebrate diversity and I learned so much from people.

One of the things that I really loved about the program was that there was a pretty wide range I think for a graduate level program of cultural diversity …. That was a really strong point of the program I think.

[Best part of the program was] being able to interact with other people from other walks of life and understanding what their experiences, thoughts and plans were.

Participants also spoke about the connections that they had made–or wish they had made–with other students and how the on-campus sessions solidified relationships.

I am in touch with [names of friends] and several other people from my original cohort. But at the same time, I met folks from other cohorts, like [name of friend] and she and I get together outside and do stuff.

I walk away having some really, really great friendships and again I knew that would happen. I knew that I wasn't going to like everyone, but I also knew I was going to walk away with some really great friendships. … So I walk away with some great friendships that I know are going last a lifetime and some not so much. I think that if I ever had a question or if I wanted to reach back out to somebody because I knew that their expertise was in X field, I know that I could probably email them and they would gladly respond to me. I don't think I was mean or burned any bridges or was a jerk to anybody that they wouldn't want to talk to me again. So in that sense, it was a great experience and I really just like everybody in the program.

Yeah [students] were great. I thought they were really interesting and came from all different kinds of backgrounds. I think that they were self-motivators. They were great. I mean the other students were really impressive. It is really interesting to see – since I'm from medical, how people came from other areas and were doing this as well. So it was good.

Yes I certainly felt the connection with … my co-students. I think we were all in similar situations and because most of us were commuting in from out-of-town. We supported one another from a social standpoint. We would come to town and you know, hang out from time to time after class or we would exchange phone numbers and we kept in contact. When I was actively engaged, I definitely felt the connection to my colleagues in the program.

I had good experiences with students. One of the challenging things which is also a good point is learning to deal with diverse personalities. Overall I still keep in touch with some of the people who I had classes with which is nice.

I just I really enjoyed getting to know different people and really the different jobs that they were doing. What was amazing to me was – we had in my particular cohort – actually in the program as I was going through and finishing my course work, we had people who had international experience who had worked for the government health services. That was something that I have never been exposed to before or even with various people working at the CDC and talking about some of their experiences that I just thought were invaluable. It really kind of opened your perspective on improving public health because up to that point and time, I had been focusing on the U.S. health care system.

When I was looking for a job, I used a lot of [student] connections …. They would send me job postings at their places. They would sometimes put me in touch with the person who is in charge of the job. There is a good level of collaboration and friendship between us.

I probably should have done a better job with really trying to develop those relationships outside of the Executive MPH program. … It was a fantastic experience to learn from them and I wish I would have devoted more time to be kind of like nurturing those relationships even outside of the MPH program.

We got to know people pretty well because of meeting for the whole weekend and staying at the same hotel together and going out to dinner together so we really got to bond pretty well with some of the students. These days – even though I'm not there anymore, still able to keep up with some of them through Facebook and things like that.

One participant spoke of her own struggle to overcome her tendencies to be an introvert.

I kind of found myself being an introvert. I wasn't going to the lunches. … In the past year, I purposely made myself stay. I just sit there, even if I am not talking to people – just to be around them so they can see me. … Because once I got in class, I realized a bunch of people would say, "Where did you come from?" … I have made some more connections now because I have purposely tried to make sure I stay during the social period and try to hang out. I can't say I've made any really close connections but people know who I am now. They know my face. They know my name and especially in my cohort. I really haven't made any close connections with people outside of my track.

Some participants spoke candidly about executive MPH students and shared challenges of working with different segments of the executive MPH student population.

I thought the program itself was very rigorous, very good, and very thorough but I felt like the atmosphere from the students lowered the ball a little bit, I'll be honest with you and it was a little surprising. … I expect a certain amount of belly aching and sort of immaturity from undergrads. I don't expect that from my fellow grad students. … So I felt just, like I said, surprised. I was so surprised is really my main reaction to it. I felt as if sometimes the faculty were really struggling to meet the abilities and the levels of all of the students.

There were some people that you learn early on that you don't really want to be in their group. Some of those people get weeded out, some don't. Some of that has to do with people not necessarily telling the professor when something goes wrong.

You could tell who had not been through that transition of becoming a professional. What happens is that until you get your first job, the focus is on <u>you</u>. So grades are of the upmost importance, and the product of your work is a grade … and it's all about you. So once you go out and get a job, you learn that you are part of the team or service industry or health care or you're a nurse or a pharmacist or a vet. You find out that your work is not about you, it's about the people that you're responsible for and your coworkers and all that. And, so those [EMPH students] who hadn't been out and develop that professional attitude, it was scary and distressing. We just distanced ourselves from those people and I'm so thankful that I made that transition, right?

The program is more than 8o% female and you can correct me on the statistics. There are more women than men, so you have to be able to interact with them … and when it comes to discussion with the female classmates, it sometimes requires a lot of patience. They like to respond and respond and I'm the kind of person who likes to go straight to the point and answer the question. This sometimes can create tensions because you might feel like the team is not sharing a common view.

I think the instructors were professionals in their field. They had an obvious dedication to actually teaching, 99% of the time but I will say I expected it to be a little more

rigorous because it was a lot of work and it was very good. I think it was more the student body. I expected the levels of my colleagues to be a little bit more advanced. So with the risk of sounding a little arrogant … there were times where my surprise was more with my fellow students, not with the program itself.

I was very surprised to see the rather extreme fear of doing presentations in a lot of my fellow students, my colleagues. I mean not just the usual… everybody gets a little nervous, right? Getting up in front of a group and there are people who just, lots of people not just a few, I mean lots of people who really, really, really, really struggled with doing a simple short 10-minute presentation.

I felt like yes there were expectations for students who got in, but then there were employees of Emory who were currently allowed to be in the program without meeting certain expectations.

A number of participants also talked about both the positive and negative aspects of group work.

A lot of the … group work has been extremely useful because it has taught me how to work in a group dynamic more so than my medical training.

One of the things that I came to appreciate and I think broadened my learning skills, was basically working with individuals within a group setting ….

Our projects are all team oriented and all the homework assignments are for teams, so maybe have some kind of accountability so [students] feel like they have to participate. They feel like not only do they have to do their job, but they have to do their job well enough. Not just come in and show up.

Well a lot of it has been positive. I mean really just had a couple of folks that are just very strong willed, but we were able to work through those things in the group projects. Overall it was very positive.

That group jived so well, that the project came out better than any of us had expected because the diversity in the group, the knowledge diversity, and the way people worked. All of that came together. … On the other hand, I had a few groups where it kind of fell apart. I had one group where a person was gung-ho, absolutely the first person to get everything done, first person to schedule conference calls … until the middle of the semester. Then that person dropped off the planet and it hurt all of us.

Well there are a lot of student projects and group projects, so it's just like the work environment. You have some that are really good and then some that really don't want to do anything. That was really surprising at Emory. I could imagine some at like a community college where they have a lot of students who are not necessarily focused on school. That was my biggest challenge, when I first started. … There were two or three on the team that were really not carrying their weight and another two or three who were really feeling the stress of that.

The one class that I will always remember is my Community Needs Assessment class … because I had the magical group. It was just that we all got along and we worked our asses off and just did this terrific project. It was really a great experience.

When comparing the executive MPH program to a previous educational experience with a cohort model where all students started together and ended together, one participant commented on how the executive MPH model was different.

> *[In EMPH] we started together but we may finish at different times. So, it losses that shared and collected sense of accomplishment and it becomes more individual as you progress.*

Connection to executive MPH program and/or university. Fourteen participants talked about their connectedness–or lack of connectedness–to Emory as an institution and all but two of these participants shared some type of connection with the institution and/or program, although it sometimes had no relationship to the participant being an executive MPH student. For example, one participant works at a nearby institution and has a [significant other] who works at Emory. Another participant is a physician, who prior to his enrollment, collaborated with Emory physicians. Other participants with feelings of connectedness, are (or were) Emory employees.

> *I definitely feel a connection and I don't know if it has anything to do with the fact that even prior to the program, I went to undergraduate school in [city] which wasn't far from Atlanta. I spent a lot of time in the greater Atlanta area and I have always had respect for the school and the medical center even as a clinician we sort of network among ourselves. My background is in [specialty area] medicine and the Emory medical center has a very strong program in [specialty area] so I always kind of reached out to them. I don't know I just … again that allegiance I felt to the university, I felt prior to me coming and it's the reason I actually applied there. If it makes any sense.*

> *I feel more of a connection with Rollins, with the school public health than I do to [my own division]. … The learning experiences that I've had – the growth, have engendered a very good feeling about the school of public health. I truly wish there is a way to remain connected and involved with the school of public health once I finally complete my thesis.*

> *I have a connection to the university and part of it has to do with coming in and being on campus. Also, having my email as well. I would get emails from the university. There was like a student government association that I would get emails from and that was actually quite helpful because it kind of let me know that I am part of a program here as opposed to just seeking a degree.*

> *Well I definitely felt a connection while I was there, however the connection was just student based and professor based. I would have liked more interactions. … I still get emails. I don't know if it's by mistake or not because I get Emory alumni emails and I am like, "okay I am not an alumni" but I appreciate the emails, newsletters and things because I can still stay connected and see what is happening. I still have an interest. I just can't fully immerse myself in it.*

Several participants talked of the challenges of connecting when they were not residential students and mentioned that they walk the campus when they come to executive MPH on-campus weekends.

> *The hurdle is you either live out of town or you don't live close by, and that is one thing I wish – I were on campus more. During [class] breaks, maybe if I have a couple hours between classes or something, I am walking around campus and I am enjoying the library. I am going to the fitness center. I am seeing where the kids, you know the college students, I see where they eat. That's something that I just took upon myself because I just wanted to experience the life. I've gone to two commuter schools actually and that's just what it's like. That's the struggle I found with every commuter school I have been through.*

> *I unfortunately don't feel that connection to the institution or the university …. I think if I was in Atlanta and was doing the program, I think it would be different story, but when I am there I do try to walk around the campus and try to take it all in. When Emory is in the news or someone says something about Emory, I get happy. There is a smile on my face. There is a sense of pride. There is a sense of, hopefully I can contribute and can give back to the school in some way, shape or form. So, maybe not as much as I would like but, I think it is difficult for those of us who are further away.*

> *The other thing that was helpful for me as well, was that when I would come on campus I would make the time to walk around campus and so once again, that kind of also helped with feeling connected to the university so I felt as though I had and even now I feel like I have a high degree of being connected to Emory.*

Several participants spoke of a lack of connection, with one talking about his connection to people but not institutions.

> *I don't really feel like I am connected to Emory at all. I mean I left the program. I am not sure maybe if I would have stayed longer it may have been different but since we don't really spend time on campus really aside from just going to the classes, we don't really explore the rest of the campus or get any kind of connection to the school itself – at least I didn't.*

> *I just don't feel an emotional connection to the institution. So it could be some that, we spend so little time on the campus and when we do, it's on the weekends and I don't live in Atlanta. Most of the people that I meet don't know where Emory University is. I got my MPH from Emory and I think it's important and I'm proud of that but my emotional connection to the university is not there. … I have an emotional connection to the people.*

A final participant spoke of the pride he feels to have graduated from Emory.

> *I'm very proud of Emory and the [E]MPH program. [Earning my degree] is a very important accomplishment for me, even more so that [my degree from another institution]. I feel like it signifies more of what it is that I have been planning and working towards in terms of my career. So it was … everything that I'd been trying to do*

with my career in terms of goals. It sort of summed them up in one kind of program. So, I was very happy.

Experience at on-campus sessions. Ten of the 15 participants who spoke about the on-campus weekends, were positive and talked about the social aspects of the weekends as well as the academic benefits.

You know I met some good friends that I keep in touch with. Being able to see them and meet people in-person that we are going through the program with, I think it was beneficial. And then we have someone to sort of share experiences with even if you are not in the same track of the program, at least they can talk about their experiences with classes and instructors and how to get online from home if they are having issues.

[The on-campus weekends are] when you get to connect with your professor, when you get to connect with your colleagues. The way y'all do it is really brilliant, because you are eating, you are living, and it's almost like boot camp in a sense. You are exhausted – not miserable, but you are tired and you are like, "I want to get out of here," but you are doing it together. You talk to anyone who goes to a boot camp sort of experience and you all come out of it stronger together as a group. If you didn't have that rigorous experience, I like the rigor. I like the fact that we are going to get through this together and then you have those things to talk about.

I guess the best part was the breakfast and having everyone sit together. Sit together in class and hearing from all the instructors and faculty.

I think what always kind of amazed me about the program was the ability of the people to travel so far to do the program. I really saluted them. It was so easy for me. I lived in Atlanta. So those aspects of the program, probably feed into a lot of attrition from the program. It's just hard to get there and yet that aspect of the program – of meeting, actually meeting people, face-to-face and book-ending the semester, is fabulous. I think it really makes a big difference as opposed to having the program online all the time, like for 100% of the time. So it's a strength and a weakness depending on where you're coming from.

One participant shared both positive thoughts about the weekends but also commented on the challenge of being tied up for the entire weekend.

I really enjoyed the two weekends that I spent on campus with other students. … The most challenging for me was just the set-up for giving up the whole weekend. I know that doesn't work for everyone, but I would have preferred taking night classes or like going in evenings. It would be better with my schedule and life preferences, I would say that's probably the most challenging.

Two participants spoke of being introverts and each enjoyed the on-campus weekends for different reasons.

Within the last 5-10 years, I have noticed that I have become more isolated and sort of introverted and this sort of online learning environment really does help me in general because I didn't feel that sort of social anxiety. Yeah, I think just being away or just having again the space between me and everybody else was just fantastic. I think when I would go on campus that is when sort my anxiety would go through the roof and it was just not fun. I like seeing everybody but I think I preferred the distance for sure.

The weekends are very helpful. One getting to meet your classmates so you know who you are talking to online was really helpful especially if you have group work. I think that it was really important. I like that most of the professors try to focus on things that they know will be hard to understand from just trying to self-learn online. So they try to go over some of the tougher concepts during the weekends. I know the closing weekend is probably the most crazy and difficult because you have a thousand presentations and work due, but I still enjoy going to them and getting closure for the class but then also getting to talk with your classmates again.

Findings by Group

When findings were examined by group, all four groups had a mix of comments related to interactions with executive MPH staff and faculty. However, the most negative comments were from two members of the "downward achievement" group. Similarly, all four groups had a mix of comments about student interactions with other students, which included discussions about the diversity of the student body, challenges of group work, and perceived limitations of the student population. Connectedness to the executive MPH program and/or the university did not distinguish the groups, as most individuals indicated some level of connection.

Participants' reactions to the on-campus weekend does appear to distinguish one group from the others. Although some of their reactions were mixed or positive, the majority of participants in the "downward achievement" group had negative feelings about the on-campus weekends because they were perceived as being costly, unnecessary, and/or taking time away from family. Participants' comments about the on-campus weekend will be further explored by group.

Successful predictors – good.

Experience at on-campus sessions. Two participants commented on the on-campus weekends. One, who was introverted, discussed the fact that she liked the social aspects but the

academic aspects increased her anxiety. The other participant stated that she liked the interactions that occurred during the on-campus weekends.

> *I do like the face-to-face interaction of the on-campus weekends.*

Successful predictors – bad.

Experience at on-campus sessions. Both of the participants who spoke about the on-campus weekend experience, had positive things to say.

> *[At closing on-campus] you take everything you've done over the past three months and now you are going to finally present it – or to finally meet your team and catch up on how life has happened to you. You have that face-to-face time with your teammates and with the professor. The breakfasts and lunches that you guys had was very good too.*

Upward achievement cases.

Experience at on-campus sessions. The four participants in this group that spoke about the on-campus weekends, all had positive things to say–both related to the social and academic aspects of the weekends. One participant had a mixed reaction because of her introverted tendencies, which made the social aspects more challenging than the academic ones.

> *I think it was quite obvious that the program was geared towards people who have busy professional lives and that was very much understood. Some of the small things or even big things like breakfast in the morning and a lunch.*

> *I actually like coming on campus so that I looked forward to it so that I could have this time to interact directly with the instructors as opposed to being online.*

> *One thing to think about and I remember this vividly … I was taking [faculty member's] class. There was one bigger concept that I was just really wrestling with … and basically what he taught in approximately two minutes is what I spent a couple of hours trying to think through on my own.*

One participant spoke with great fondness of the on-campus weekends and the friends that stayed together at the hotel.

> *I think that the best part for me was traveling to Emory. We called those weekends our "nerd camp" weekends. For those people who have busy professional lives and busy personal lives, we could leave that all behind for three days and meet with people that we enjoyed. And do school which we all enjoyed because everyone – the larger group that stayed at the hotel, they were either a nurse, a pharmacist or veterinarian or physician. Every one of them. And they all had a master's degree or something else. And so we were all nerds and we all loved class and we all had families and we could sit around*

and drink beer and eat junk food and work together and play together, just for those 72 hours that we were together, and I had so much fun. So that was the most enjoyable part.

Downward achievement cases.

Experience at on-campus sessions. Of the seven participants who talked about the on-campus sessions, five viewed them through a negative lens. Two felt that they took away from valuable family time, one felt that there was an air of extravagance which was unsettling as he had difficulty paying for school, and another individual also had difficulty with the financial aspects of coming to the on-campus weekends.

Worst by far is the weekends. Coming in for the weekends – spending that whole weekend. I just can't imagine someone being out-of-state or out-of-country. It's the weekends that I'd love to spend with my kids, but you're here all through the weekend. I know it's only twice a semester but still I felt that was <u>not</u> something that I looked forward to. It takes me away from my family. The whole program is online. Personally I didn't see a need for me to be there because pretty much that weekend they just do the same thing that they do online.

I think it just seemed like it cost a lot and it's frustrating to actually go to school and they are buying huge lunches and professors are going, "Hey free lunch. Well no, we are paying for that." It seems like the expenses were a bit more than they needed to be and that kind of put a bad taste to my mouth. We are paying so much and it looks like there is a lot of over spending and waste going on – and I can barely afford it in the first place. It was my first experience at a private school too and it just seems like there is much different attitude at a private school than public school. I mean everyone is nice but they all definitely come from a more affluent background than I am used to in a public school system.

You know coming from afar it was something else that was really tasking – coming at the beginning and at the end. … It was a bit of a struggle on its own.

The fifth participant, did not find the weekends necessary and this participant was displeased with her entire experience with the program, especially faculty who she felt were not committed to teaching.

Weighing it cost versus benefits, I still feel like just the cost alone of going to Atlanta so often probably outweighs the benefits of getting to know nice people.

Two of the participants had positive things to say about the on-campus weekends, both in terms of the academic role they served and the social aspects.

That's one reason why I'm going to continue forward with this because I love the weekends. I think that's a great idea that really connects it all together.

One of the nice things about the program was really the meals – other than the food, which is always abundant. It really was a nice time for people to sit and chat and catch up and just to talk and really meet each other.

Online Orientation Course

All Participants

All 19 participants commented on *PRS 500D: Strategies and Resources for Online Learning*, the executive MPH program's online orientation. Two participants did not find it useful and four participants did not have a clear memory of the experience. Eleven participants found the course to be helpful in learning tools and skills that would be used in executive MPH courses; 10 participants commented on the social aspects of the course with half of the comments being negative; and five participants stated that the course helped set the tone and/or expectations for the executive MPH program.

I really think that little pre-class on Blackboard makes such a difference. It's only a week long, but at the same time, for anybody who has never seen something like that, it makes such a difference in your class work. The ability to use Blackboard at all makes such a difference.

I think it was a good dip your toes in the water kind of experience because we were forced automatically, we had no choice. You have to do a group project. That was kind of neat, because that set the tone, the whole thing. That is one thing I liked about the experience. It really set the tone for the whole curriculum, for the whole EMPH. That's one thing that you guys don't do. You guys don't pull punches. You are very upfront. I mean like hey, this is what it is. This is the intensity. This is the level of group work. So, I just thought that fell in line. I learned some things. I did. I actually learned some things and it was nice to, I have never been exposed to a wiki before. I had to learn that. So, I took away some bits of that too. I thought it was worthwhile.

I do remember that experience because when I had to do that I was actually in a [foreign country]. So for me that was what I thought about it. I distinctly remember that because I said, "okay, I'm in a [foreign country] and if I can figure it out … with no one here to help me, with poor electricity that could potentially go out at any second (which it did at several points while I working on or going through the little assignments that we were given to us during the orientation) … if I could do it in a [foreign country] then I can do it when I get back to the mainland." So I distinctly remember that conversation that I had with myself and I also remember thinking, "okay so I did it … this is going to be a great learning experience for me." And so it was a great precursor of what to expect from the program because I was in a [foreign country]. Now, had I done the online training here in [U.S. city] I don't know if I would have really understood the value of time management or it would have probably taken a little bit longer to be quite honest. When I was in a [foreign country] it was sort of like, "okay I have to be able to get this assignment done within an hour or I have to be able to figure it out quickly because I

don't have all day long to do it." … I had to sort of get it done quickly because the power could go out at any second, and so I think for me it was just the location of where I had to do my online training. It put a lot of things into perspective for me that I think had I done the online training here at home, I may have lost that or I may not have seen that as quickly.

I can't really remember it that well, it was a while back. … It was pretty short and simple and easy. I remember at the end I thought well it might have been a little longer than needed but at least it gave us a sense of what to expect before we just jump in and get started so I did appreciate the online orientation the fact that we had one at all. I did like that I knew what was coming because I hadn't been in school for a long time and I had no idea what to expect so it's nice to sort of get a preview of that before the first classes actually began.

Comments about the social aspects of PRS 500D were mixed.

Just getting used to Blackboard and how it works. The social aspect of it was kind of nice because we kind of met some of the students at least through some of the postings that we had and then when you meet them later in person you are like, "Oh that's right you had written this about your experience in public health for instance." And actually [another] component was connectivity and just being able to make sure Blackboard works on your computer from home and things like that was actually very useful.

I think that was helpful because I had never used Blackboard before. So it was helpful to learn how to use that and it was like you were starting to feel like you are part of a community already before you actually started. … And we had to share about ourselves on there. That was good, all of that was very helpful.

But looking back at it, I think that I remember valuing the time that was spent on that pre-work just to get an idea of what I was getting into. And then there were some useful things that I fell back on from that time during the courses, so I think that was a good experience. … Yeah I'm just remembering encountering things during the course work and being like, "oh I know where that is because I did this exercise." … Even relationships formed in that pre-work. That was even very good because when you got to campus to start off the program, there were already people that you knew from online and a shared experience. It is a good builder of relationships I think.

The technical aspects of it were very helpful for the Blackboard stuff in particular …. It was only mildly helpful in terms of meeting people. I think that was the weaker aspect of it – the more social aspect of it, but the technical aspect was very helpful.

Participants who had negative comments, generally felt that the concept of an orientation was good but felt that PRS 500D should be shorter, self-paced, and/or optional. Two participants felt like the orientation appeared with no advanced warning.

As far as feedback on that experience, it doesn't need to be ten days. It could have been condensed or perhaps it could have been done in more of an independent manner.

I remember the concept was good. Before you start, you should kind of figure out how to do things. … It seemed like it just popped up and we had to start meeting deadlines and timelines for when things needed to be done. It wasn't always clear why that needed to be done, in the time it was asked to be done. So, it felt a little too controlled in a way. … I would have maybe given people more flexibility in terms of how they kind of accomplished that – just say, in the next 10 days you need to do this 10 steps. I felt like I may have missed some of the communication on the front end about that. I felt like all of a sudden we started getting emails saying we had to start doing it.

So it was a mandatory class for everyone and that kind of caught me off guard because I was prepared to do the work at a certain time which would have been when classes started. I was trying to finish up some work projects before then. Plus, I have been working in Blackboard … so I was already familiar with it.

I see why it was necessary to orient people to Blackboard and just what may seem intuitive to me in terms of attaching a file or writing the discussion post. I can see where it would be necessary. I guess my thoughts around that orientation would be, I wonder if it could be shortened or I wonder if it could be based on technological skill level or experience. Just so that it's not completely frustrating to a person who may have experience with most technology types, to have to do the most basic things and get a grade for them.

Findings by Group

When findings were examined by group, reaction to the online orientation course did not distinguish between groups. All groups had participants who found PRS 500D to be a beneficial experience and participants who had little or no memory of the experience.

Learning and Teaching Styles

All Participants

Students in the executive MPH program have a variety of learning styles and approaches. When asked whether their learning style corresponds to the program's teaching style, only six of 18 participants spoke of a direct misalignment. The remaining participants, felt that their learning style matched, partially matched or evolved during the program.

I feel like a lot of the program is very self-driven. … I want to say my learning style fits well because I like to be pointed in the right direction for all the sources of information and couple those with exercises and assignments to demonstrate that you have it right. Then the teacher and other students are there as kind of a resource to draw upon when you get stuck or you are having trouble.

I think for me it was a great way for me to learn and completely aligned with how I learn, and I think it has completely changed my perspective of an in-class setting. I don't know

how successful I would be if I were in a classroom studying at this point. For me it worked; it just aligned perfectly.

I think it did align with how I learn. I liked the practical applications, the lab components of the biostats and the epidemiology courses. I liked the fact that we actually had to bring our computers in and we were given a data set – and we were given assignments, to do certain types of analyses of the data. I kind of liked the hands on – the practical applications, approach and that's pretty much how I learn. I mean I could read something and I could memorize it but until I actually see it applied. It sticks with me once I have seen it applied in a certain situation or setting.

Emory … was a bit of an adjustment for me … but I adjusted over time. … The way I learned initially [pre-EMPH] was to do all the work and then at the end of the semester have an exam.

I learn best in didactic situations and I have a very difficult time learning from the textbook and being on my own. That's why I really leaned on my study group, my friends, to ask and help me learn some of these things. That was the hardest part of the program for me. I loved sitting in class and listening and engaging that way. Being given 3 or 4 articles to read, to glean the information and write a paper on it – really difficult for me.

Findings by Group

When findings were examined by group, there is a suggestion that alignment of learning and teaching styles may distinguish the different groups. Although the "downward achievement" and "successful predictors – bad" groups had participants with both alignment and misalignment of styles, half of these participants spoke of a misalignment of styles, whereas only one of the eight participants in the "successful predictors – good" and "upward achievement" groups spoke of a clear misalignment between learning and teaching styles.

Successful predictors – good. One participant in this group talked about her learning style evolving from being a solitary learner to understanding the importance of group work. The other two participants, found that their learning styles match the executive MPH program's teaching style.

I wasn't sure how I was going to react. If this is going to be a platform where I would be comfortable or this is going to be a platform where I was going to become even more of an introvert. What I notice for myself is that this was probably the best way for me to learn because in the classroom setting, I probably would have shut down, and I wouldn't have been as vocal. In the online platform, I was be able to write and express myself and I just felt more comfortable. The laptop and the distance shielded me from the direct

glare. I didn't know how it was going to work out for me but in the long run, it ended up actually working out for me.

I learn with the combination of, I would say, self-directed as well as instructor-led. I don't think I need to be in the classroom all day to get the lesson and I don't know if I need a lot of instructor-led type of conversation. … I'm pretty much able to – if given an assignment and task, read it and basically do what's needed to be done in terms of following the instructions, preparing, and doing all of the stuff – and feeling at least confident that I can sit there and do well on the tests, the papers, or whatever is required.

Successful predictors – bad. Two of the three participants in this group spoke of a misalignment between learning and teaching styles.

I felt like it was more teaching myself than necessarily being taught by a professor. I felt like I was being guided through a self-learning process which was very different than what I had participated in before – and from what I anticipated was going to happen, based on a friend who had also done an online program [at another university] that was very different. [At this other university] they would actually have group lectures. Then you would actually have interactions with the rest of the class via video conferencing. … I think I missed the interaction that you get feeding off of other people. [EMPH] missed that component for me.

So once I got home from the weekend at the EMPH, I pretty much had to learn on my own so to speak and Blackboard allowed us to ask questions. [I felt] like really really on my own and if I hadn't done public health prior to the program then I would just be lost. … Blackboard was good as a tool but you almost felt like you are being judged by what you are asking. No one wants to ask – what appears to be a dumb question on Blackboard – because then it felt like everything was being judged on Blackboard.

Upward achievement cases. Learning and teaching styles aligned, or partially aligned, for four of the five participants in this group.

I am an independent learner so the group dynamic was new for me but … I had to learn from it. In many cases when it comes to group work, you end up doing some independent studying of your own. That part was great for me, so that when I did go back to the group there was something meaningful to discuss.

My learning style matches exactly what the program is supposed to teach and I don't see anyone selling this program because of the learning style of the program. I think it has a broad range to accommodate almost everyone.

[The program] actually helped to change my learning style because before I came into the program my learning style was, "I will figure it out by myself" and so it was much more an individualistic approach to learning. One of the things that I came to appreciate and I think broadened my learning skills was basically working with individuals within a group setting. … I mean there were still a couple of areas – more in the quantitative sciences such as biostats and epi, that were more individualistic but then there were a lot of other courses where once again it kind of took me out of my comfort zone. But I think I am better off for it.

Downward achievement cases. Of the seven participants who talked about the alignment of their learning style with the executive MPH program's teaching style, four indicated a balance between styles.

> *I like to read, digest and then have a chance to talk about questions, or dig in a little bit more ... so, that was good.*

> *I am a very eclectic kind of person. I like to read, I like to write. Pretty much you're going to hit every mode of learning in the program. Somewhere along the line, it's just kind of the nature of the program.*

> *This environment I feel caters to me a little bit more than the [previous schooling] curriculum I was part of. I struggled a little bit in the medical model, because it is just rote memory and there is no applicability. … So, for Emory and EMPH program, everything is application. I mean my favorite thing about the curriculum is I have learned so much just from the four classes that I have taken and that I have used. I mean I have used the survey skills; I have used the epi information. I have used everything. So, you leave equipped and you do while you are learning. You are just not regurgitating epi and statistics. You are playing with it. You are manipulating it. So, that's been a key takeaway for me.*

Three participants spoke of a misalignment between learning and teaching styles.

> *Mine [learning style] is more visual and so I like when I'm in a classroom and people are sharing examples. … I almost feel like this program is very independent, like there's hardly any interaction. There are all these slides and studies that you just do by yourself. You just read them and you read the book. That's pretty much it.*

> *I just prefer the old style of going to class in-person you know and hearing the instructor lecture and talk. In my undergrad, I learned a lot more than I am learning in either of the online programs I have been involved with. [The teaching style] was pretty different. It's more on myself – instead of being lectured to. I have to read PowerPoints and go from there to do the assignments. It was very different. Even writing papers, I didn't know what the instructors expected aside from what they have put on the instructions.*

One participant shared his belief that students who need guidance with instruction might find a mismatch of styles, although that was not his experience.

> *I think, some people who need more guidance and instruction on content may have a little bit of a hard time in the weeks in-between [the on-campus sessions] when they have a question late at night, or whenever they get stuck on something – especially if it's being technical like an epi course and there's not necessarily a quick response. Where with a regular class, you know that you're going to go back next week and that's going to be your time to ask questions or figure it out more.*

Other Findings

All Participants

Participants also spoke of other services they encountered in the executive MPH program–in particular, library and career services. The participant who spoke of the librarian who works with executive MPH students was very positive about this experience. Participants had mixed reactions to seeking services from the school's office of career services.

> *I learned what librarians do. When I went to meet the librarian at Emory to do some research for my thesis, I was amazed. Holy cow! She helped me learn more about PubMed – I thought I knew how to use PubMed and I didn't. And EndNote. She helped with EndNote and learning about MESH terms and how to do all that. I have profound respect for librarians and what they do because of that experience. Her involvement in the program was almost like a bonus – a huge bonus.*

> *I have gone to career services. I have gone to a lot of people trying to get help because when you are trying to change careers, your resume may not help you at all. So it's been a really big struggle for me – trying to present myself in a light that will help me move on to the area or industry that I want to get into now. I've gotten suggestions that I think would be more helpful for people who are specifically trying to change. If you are already in research and you are just trying to get a credential you can pretty much update and do all the general stuff they tell everybody but if you are trying to change … that's a lot more work.*

> *My experience with career services was very negative and it kind of pushed me away from them, but in the case of adversity, I had to combat them and I finally had a positive experience. At the beginning I didn't feel any support. I was sending her my resume and the experience was very negative. So I just decided not to go back there. Because of the situation I was in – not being able to find a job despite all my effort, I had to go back and maybe it was just a matter of person. The person I met with this time, was very helpful and yeah … but again, it comes down to being proactive. If you don't go there, no one will ever ask you if you have a problem.*

> *I did actually try to take advantage of the career center there … to think about jobs and I didn't find it particularly helpful. I was confused as to what the real opportunities might have been for me had I finished the program. So I would say career planning for people who are either changing careers or shifting career, a little bit of help might be good.*

Reasons for Program Withdrawal

All Participants

All 11 participants who were no longer enrolled in the executive MPH program shared their reasons for program withdrawal. Five participants withdrew because of work-related reasons (e.g., change in job or new job, new job duties) and four participants withdrew for each of

the following reasons: difficulty balancing family and school, financial reasons, and the program was not meeting needs. The final reason for program withdrawal was a participant who moved out of state, which changed her financial arrangement.

> *Work demands and then also slightly embedded in that, is a slightly different career path that I chose, for better or worse. So the job not necessarily needing the type of skills that I would've gotten in the program.*

> *When I was looking around and with [another program] I didn't have to travel and it would cost half as much. … I just I didn't feel I was learning much with the online format and I was frustrated with the biostats class because I didn't feel I was getting support in the SAS programming. So I figured if I am going to have this kind of trouble and frustration, I may as well be paying half as much in a different program. I don't want to pay as much if I'm having difficulties and don't enjoy it.*

> *There were two reasons. I realized that I was really teaching myself … I thought that there would be more interaction than I was able to get. The other reason … I was really interested in global health … and I wasn't getting any exposure to it. I think honestly the program probably wasn't the right program for me. … I made the choice to <u>do</u> versus study about it.*

> *Ultimately I left the program because we decided to move back to [state]. I left a really good job … because my husband just didn't want to live in [city] anymore and I was kind of on the fence but I wasn't attached to [city].*

Findings by Group

When findings were examined by group, there was no obvious delineations among the groups.

Current Status

Of the 11 participants who did not finish the executive MPH program, one has re-enrolled in the executive MPH program (as of fall 2015), one intended to re-enroll in the executive MPH program in fall 2015 but was delayed due to personal reasons, and two have since enrolled in other 100% online MPH programs–one is happy with the new program; one is not.

> *I am currently in an MPH program at [university], which I love much more than Emory's program.*

> *I mean even now I don't like my current online program. I just don't think that online is that good.*

Four participants expressed that their job and/or passion is elsewhere and the MPH is no longer necessary for their career trajectory.

> *I want to finish the MPH program but don't really think that healthcare informatics is for me because so far I haven't seen an opportunity to apply it. … It was just that this was more of my passion – the residency, so that's why I moved on.*
>
> *But here I am I'm back in the laboratory. I am doing what I was trained to do. I really did want to change the trajectory. I really did and I'll be honest with you I just don't know how to do that. And I couldn't finish the program. If I had been at Emory for one more year, I think I could have finished the program but like I said the timing was bad. We had to get back to [city] for a variety of reasons and there was just no way I was going to be able to afford paying tuition….*
>
> *There are times – I will let you know, that I thought maybe I should have finished or done it, but again it would be to have the letters behind my name. … But I think things have worked out fine. I don't think that I've not been able to do anything because of it.*

Two participants stated a desire to complete their degree, although neither has current plans to do so.

> *I even carry it on my resume in the hopes that I will one day eventually finish. … I like to think of myself as still in progress but I don't know if there is anybody like me that feels the same way.*
>
> *It's still a long term career goal of mine and how I will get there, I'm not exactly sure. … I was bitter with myself that I wasn't able to complete the program. Obviously I still have that desire, so I felt a sense of failure because I wasn't able to complete it; after which I had resentment toward my employer for not supporting me as they stated they would.*

Key Findings

In an attempt to more fully understand the experiences of students in the executive MPH program, 19 in-depth semi-structured interviews were conducted with four groups of participants: a) successful predictors – good standing, b) successful predictors – bad standing, c) upward achievement cases, and d) downward achievement cases. This portion of my study sought to explore areas that were not included in the regression analysis discussed in Chapter 4. The propositions explored in this chapter relate to student expectations, needed skills, external factors (e.g., financial constraints, family support and responsibilities, social support, life events), social integration (e.g., faculty, staff, student colleagues), experience with the online orientation course, and alignment of learning and teaching styles.

Differences among Groups

When findings were examined by the four groups of participants, there were five areas where possible differences were seen.

Program expectations and experience. When participants discussed program expectations, most expressed high expectations which aligned with their experience. For those who commented on the program's online structure, most said this did not factor into expectations although a few thought the online aspect might add additional challenges. When program expectations and experience were examined by group, there may be a possible trend. Although some participants in the "downward achievement" group had high expectations that matched their experience, participants in the "successful predictors – good" and "upward achievement" groups tended to have stronger alignment between rigorous expectations and their experiences.

Employment. When the impact of employment was explored, participant responses were categorized as positive support (e.g., tangible support received, alignment of work and school), negative support (e.g., little or no support, demanding job or job change), or neutral (e.g., separation of work and school). Although all four groups had participants who discussed negative support from work, the "successful predictors – bad" group was the only group where the only support was negative and there were no examples of positive support.

Finances. Eleven participants spoke of the high cost of the executive MPH program. Those who downplayed the role of finances were participants who had proactively planned for the expense or had assistance paying their tuition. Finances appear to be a distinguishing feature among the groups of participants. Most participants in the "successful predictors – good" and "upward achievement" groups were thoughtful in their planning or had financial assistance, while most of the participants in the "successful predictors – bad" and "downward achievement" groups talked about the high cost of the program and/or cited finances as a reason for their decision to leave the program.

Experience at on-campus sessions. The majority of participants who talked about the on-campus weekends, were positive and spoke of both the academic benefits and social aspects of the weekends. Most of the participants in the "downward achievement" group expressed negative comments about the on-campus sessions because they were perceived as being costly, unnecessary, and/or taking time away from family. This negativity was not found in the other three groups.

Learning and teaching styles. When the alignment of learning and teaching styles is explored by group, there may be a possible trend. While the "downward achievement" and "successful predictors – bad" groups had participants with both alignment and misalignment of styles, half of these participants spoke of a misalignment of styles, whereas only one of the eight participants in the "successful predictors – good" and "upward achievement" groups spoke of a clear misalignment between learning and teaching styles.

Additional Findings

In addition to the findings discussed above, this section will summarize other key findings from the 19 interviews.

Reasons for enrollment. Participants enrolled in the executive MPH program for a variety of reasons: prestige of the Emory name, program's perceived rigor, program structure (e.g., flexibility, amount of on-campus time), to gain content and perspectives, and to take advantage of the courtesy scholarship benefit which provides up to five credit hours per semester of education for free to university employees.

Goals. Participants shared that their goals for earning an MPH degree related to developing skills and broadening their perspective, credibility, and/or a job shift. For those who spoke of a job shift, this was sometimes related to changes within the public health sector and other times related to a shift from outside public health to a public health-related position.

Skills. When asked what skills participants possessed prior to enrollment that helped them, answers were grouped into the following responses: a) soft skills (e.g., leadership,

interpersonal skills, communication, teamwork, adaptability, problem solving, conflict resolution); b) organizational skills (e.g., project management, time management, organization, study habits); c) healthcare and/or public health perspective; d) research skills (e.g., information seeking, writing and presentation skills); e) maturity, f) computer and technology skills, and g) other (e.g., open mindedness, previous math or statistics courses, cultural diversity). Although only two individuals volunteered the importance of computer skills, when prompted, all agreed that computer skills, time management, and organizational skills were critical to program success. When participants were asked what skills in retrospect they wish they had possessed prior to enrollment, responses included communication skills (writing, presentation skills), SAS (statistical program), epidemiology and biostatistics, math, qualitative research skills, a social science perspective, and specific computer skills.

Family and friends. When asked about the role family and friends played in their program experience, most participants spoke about the critical role of family support and cited examples of support they received from family. Some spoke about both the help and hindrance that family could provide and two participants did not feel that family had any effect on their experience. Participants also talked about the impact that children had when trying to balance family and school. Participants' reactions to the role of friends was mixed, with most having positive comments.

Life events. Seven of the participants discussed either happy (e.g., marriage, improved health) or sad (e.g., serious illness or death of loved one, own health condition, child-related concern) life events which had a variety of effects on their program experience including increased motivation to pursue the MPH degree, slowing of coursework or program requirements, and increased feelings of support.

Connection to faculty and staff. Participants talked about positive as well as mixed and negative experiences with faculty and staff. Positive comments generally related to personal connections, faculty responsiveness, collegiality, and the quality of the faculty. Negative

comments related to unengaged faculty and unrealistic expectations by faculty. Program staff also received mixed reviews with both positive and negative comments. Some participants provided feedback on program coursework including the applied nature of many of the assignments.

Connection to fellow students. Participants spoke of the rich diversity of the executive MPH student population and the friendships they developed. Many talked about the challenges and rewards of group projects and some commented openly about frustrations with students who they perceived as not being academically rigorous or who did not have a level of maturity possessed by other students.

Connection to executive MPH program and/or university. For those who spoke about connectedness to the program and/or university, most felt a connection and several participants talked about walking around campus during the on-campus weekends to increase their feeling of connection. For some, the connectedness came from a source other than participation in the executive MPH program (e.g., prior connections to the school or university).

Online orientation course. Although the majority of participants spoke favorably about the online orientation course, there were mixed reactions. Positive comments talked about the usefulness of learning tools and skills, and the importance of setting the tone and expectations for the program. Participants were mixed in terms of the social benefits of the online orientation course. Those who were negative generally liked the idea of the orientation but thought the course could be shorter, self-paced, and/or optional.

Reasons for program withdrawal. When "successful predictors – bad" and "downward achievement" participants were asked why they withdrew from the program, five reasons were given: employment related reasons (e.g., change in job or new job, new job duties), difficulty balancing family and school, financial reasons, program was not meeting needs, and participant moved out of state, which changed her financial arrangement.

Summary

This chapter presented the qualitative findings from 19 in-depth, semi-structured interviews conducted with participants representing four groups: a) successful predictors – good standing, b) successful predictors – bad standing, c) upward achievement cases, and d) downward achievement cases. Specific findings explored participants' reasons for enrollment in the executive MPH program, expectations of the executive MPH program, goals for earning an MPH degree, skills needed prior to enrollment, external and internal factors affecting the program experience, experience with the online orientation course, alignment of learning and teaching styles, and reasons for program withdrawal.

CHAPTER 6

CONCLUSION

This chapter discusses key findings and how they relate to the literature previously reviewed. In addition, I revisit the Composite Persistence Model by Rovai as well as discuss recommendations for practice and future research.

Discussion of Key Findings

The majority of the online and distance learning literature defines student success at the course (versus program) level in undergraduate populations. My study therefore adds to the literature by examining student success at the program level and in a master of public health program.

Enrollment, MPH Goals and Withdrawal

Reasons for enrollment and goals. Interview participants stated that they enrolled in the executive MPH program for a variety of reasons: prestige of the Emory name, program's perceived rigor, program structure (e.g., flexibility, amount of on-campus time), content and perspectives, and to take advantage of the courtesy scholarship benefit. Participant goals for earning an MPH degree related to one of three reasons: developing new skills and broadening their perspective, credibility, and/or a job shift. The executive MPH program leadership can use these goals and reasons for enrollment when recruiting new students.

Reasons for program withdrawal. When "successful predictors – bad" and "downward achievement" participants were asked why they withdrew from the program, five reasons were given: employment related reasons (e.g., change in job or new job, new job duties), difficulty balancing family and school, financial reasons, program was not meeting needs, and one participant moved out of state, which changed her financial arrangement.

Student Characteristics

Demographic traits. Consistent with previous literature which demonstrated that women performed better than men (Aragon & Johnson, 2008; Cheung & Kan, 2002; Cochran et al., 2014; Doherty, 2006; Koch, 2005; Packham, Jones, Miller, & Thomas, 2004; Willging & Johnson, 2009), my study showed that females were more likely to be in good standing. Additionally, I found that participants with good performance in the online orientation course were more likely to be female.

As the number of credits resulting in failure increased, my study found that age decreased which suggests that younger participants failed courses more frequently than older participants. This finding is consistent with the literature that suggests that successful students are older (Doherty, 2006; Koch, 2005; Muse, 2003; Valasek, 2001; Wojciechowski & Palmer, 2005).

The way that I grouped race and ethnicity (white or Asian; underrepresented minority which included black, Hispanic, American Indian; other) makes it difficult to compare my findings with the literature but my study found that those who were in the white/Asian category were more likely to be in good standing. I also found that participants with positive academic metrics (i.e., good performance in the online orientation, high GPA at the fifth semester) were more likely to be white/Asian and less likely to be an underrepresented minority. Those participants with negative academic metrics (i.e., increase in credits resulting in failure, increase in difference between credits attempted and completed) were less likely to be white/Asian. Additionally, the larger the difference between the number of credits attempted and completed, the more likely participants were to be categorized as "other" race; and participants who had been on academic probation were more likely to be an underrepresented minority.

Variables that did not predict program standing (good, bad) and did not significantly correlate to other academic performance variables include birth country (U.S. or other), distance lived from university, and timing of application submission. The demographic findings from my study provide an opportunity for the executive MPH program leadership and faculty to identify

students who may need additional attention and to provide these individuals with academic assistance either during the program or as preparation or pre-requisite activities prior to the first semester of enrollment.

Previous academic performance. Participants with good performance in the online orientation course were less likely to be academically prepared only at the bachelor's level which suggests that those with good performance in the online orientation had an advanced degree. This finding is inconsistent with Packham et al. (2004) who found that successful e-learners had no previous higher education degrees, and with Niemi and Gitin (2012) who concluded that the risk of dropping out was greater for those with previous college experience.

The results of my study indicate that participants with negative academic metrics (i.e., academic probation, increase in credits resulting in failure, increase in difference between credits attempted and completed) were less likely to have a high GPA prior to enrollment which suggests that these individuals had lower pre-enrollment GPAs. Additionally, results showed that GPA in the fifth semester was positively correlated with prior GPA. These findings are consistent with others (Dupin-Bryant, 2010; Morris, Wu, & Finnegan, 2005) who found that successful students had a higher pre-enrollment GPA than unsuccessful students, although in these previous studies, the researchers were looking at high school GPA.

My results provide an opportunity for executive MPH program leadership to think about admission criteria for the program, in particular pre-enrollment GPA.

Prior employment. The results of my study indicate that participants with negative academic metrics (i.e., poor performance in the online orientation course, increase in credits resulting in failure, increase in difference between credits attempted and completed), were more likely to have less work experience prior to enrollment. Additionally, as the GPA at the fifth semester increased, years of experience also increased suggesting that those with higher fifth semester GPAs also had more years of work experience. Once again, these results provide the

executive MPH program leadership with an opportunity to revisit admission criteria related to prior work experience.

University employment. The results of my study indicate that participants with negative academic metrics (i.e., increase in credits resulting in failure, increase in difference between credits attempted and completed), were more likely to be university employees. This provides an opportunity for executive MPH leadership to review admission practices to make sure they do not vary between university and non-university applicants.

Student Skills

A review of the literature shows that computer and technology skills (Aragon & Johnson, 2008; Dupin-Bryant, 2010; Fair & Wickersham, 2012; Muse, 2003; Willging & Johnson, 2009), time management skills (Doherty, 2006; Fair & Wickersham, 2012; Lee et al., 2013; Morris & Finnegan, 2008; Nash, 2005; Nichols, 2010, Valasek, 2001), and self-regulation skills (Castles, 2004; Lee et al., 2013; Yukselturk & Bulut, 2007) are important to student success in online courses or programs. These findings are consistent with my findings, where participants indicated that the following skills and perspectives were important: soft skills, organizational skills, healthcare and/or public health perspective, research skills, maturity, and computer and technology skills.

When specific academic skills are examined, findings in the literature are mixed. Although Wojciechowski and Palmer (2005) found that ASSET Reading scores and ACT English scores were positively associated with better student performance, Fair and Wickersham (2012) found no significant differences between READI scores and final course grades. Morris, Wu, and Finnegan (2005) found that math ability was a predictor for completion in the online environment and Menager-Beeley (2001) concluded that those with a lower prior grade in English, were more likely to drop out. In my study, some of the interview participants shared that previous math or statistics courses had been beneficial. When participants were asked what skills in retrospect would have been helpful, the following responses were given: SAS (statistical program),

epidemiology and biostatistics, math, qualitative research skills, a social science perspective, and specific computer skills.

The findings from my study can be used by executive MPH program staff when advising new students. Additionally the program may consider offering optional workshops (e.g., writing, presentation skills) that would assist students. Some sessions (e.g., math refresher) may be offered as preparation or pre-requisite activities prior to the first semester of enrollment.

External Factors

Family and friends. The literature has mixed results regarding the importance of family and social support with some researchers finding no difference between completers and non-completers with respect to family and personal commitments (Kemp, 2002; Lee et al., 2013) and others concluding that time with family and friends, health concerns and death of loved ones were reasons for program withdrawal (Aragon & Johnson, 2008; Castles, 2004; Nichols, 2010; Perry et al., 2008; Pierrakeas et al., 2004; Willging & Johnson, 2009; Xenos et al., 2002). In my study, most interview participants talked about the critical role family played and shared examples of the support they received from their families. Only two participants felt that family had no effect on their program experience. Participants also spoke about the impact that children had on their experiences in the executive MPH program. Participants' comments about the importance of friends was mixed but most had positive things to say. Seven participants in my study spoke about life circumstances (happy and sad) that they encountered. In none of these cases, did the life events result in program withdrawal.

Employment. The findings from my study were consistent with Kemp (2002) and others who found that work commitments, career changes, increased workloads, and competing pressures between work and school were predictive of non-completion (Aragon & Johnson, 2008; Packham et al., 2004; Pierrakeas et al., 2004; Xenos, Pierrakeas, Pintelas, 2002; Willging & Johnson, 2009). While interview participants in my study spoke of both positive (e.g., tangible support received, alignment of work and school) and negative (e.g., little or no support,

demanding job or job change) support, the majority of participants shared examples of negative support. In addition, the "successful predictors – bad" group was the only group of participants where the only support was negative and there were no examples of positive support cited.

Finances. When financial issues were examined, the findings from my study were consistent with other studies where financial pressures were one of the stated reasons for program withdrawal (Perry et al., 2008; Willging & Johnson, 2009). Eleven of 19 interview participants in my study talked about the high cost of the executive MPH program and those who minimized the role of finances were individuals who had proactively planned for the expense and/or had tuition assistance. My study found that most of the participants in the "successful predictors – bad" and "downward achievement" groups talked about the high cost of the program and/or cited finances as a reason for their decision to leave the program.

Time commitment. Consistent with those who found that lack of time was a reason for non-completion and withdrawal from courses and programs (Boston et al., 2011; Herbert, 2006; Packham et al., 2004), interview participants in my study talked about the challenge of balancing family, school, and work. In some cases, this challenge resulted in program withdrawal.

The findings related to these external factors suggest that during program recruitment and new student advisement, staff in the executive MPH program should talk with prospective and new students about the importance of securing social support (family, friends) as well as support from work. Those with children should be advised to think about how enrollment in the executive MPH program may change their availability for family. Additionally, candid conversations about the financial commitment and time needed to complete the executive MPH program should be discussed.

Internal Factors

Program major. In my study, those participants who were more likely to be in good standing were Applied Epidemiology majors; and those participants who were less likely to be in

good standing were Healthcare Outcomes[16] majors. Applicants to the Applied Epidemiology and Healthcare Outcomes majors are required to submit GRE scores, which is not a requirement for the Applied Public Health Informatics and Prevention Science majors. The GRE requirement may partially explain the findings related to major but does not explain the difference between Applied Epidemiology and Healthcare Outcomes majors. The correlation matrix in Chapter 4 does show that being a Healthcare Outcomes major is negatively and significantly correlated with being female ($p<0.001$) indicating that those who were Healthcare Outcomes majors were less likely to be female. There is no equivalent statistical relationship between being an Applied Epidemiology major and being female. Therefore the finding that those who were more likely to be in good standing were Applied Epidemiology majors and those less likely, were Healthcare Outcomes majors, may be related to gender.

Academic and social integration. Previous literature suggests that interactions with and encouragement from faculty has an important effect on student performance (Castles, 2004; Cheung & Kan, 2002; Nichols, 2010). Although interview participants in my study talked about positive, mixed, and/or negative experiences with program faculty and staff, they sought to have faculty who were engaged, responsive, collegial, and good teachers; and staff who were responsive and proactive in their interactions with students. These findings suggest that the executive MPH program leadership should work with faculty to ensure that they are engaged and responsive to students. Faculty should also be encouraged to build connections with students outside the "classroom." For example, they might join students for mealtimes during the on-campus weekends.

Interview participants in my study also talked about the rich diversity of the executive MPH student body and the friendships they developed. Both were discussed as positive aspects of the program. Students also shared both the positive and negative aspects of group work, which

[16] The Healthcare Outcomes major was discontinued as of fall 2013.

suggests that the executive MPH leadership should work with faculty to refine processes and procedures to enhance the group experience while diminishing the negative aspects of group work, to the extent possible. Some interview participants in my study were also candid about their perception of other students who were academically weak or were perceived to have a lack of maturity. These findings indicate that the executive MPH program leadership might revisit admission criteria and practices as well as provide pre-requisite activities (e.g., math refresher) and/or additional assistance for students who need support.

While no participant in my study indicated that they withdrew because of poor course design, group work, or poor advisement, participants did discuss the challenges of group work as previously mentioned. They also shared examples of poor advisement and classes that did, and did not, meet their needs. These concerns are similar to the findings of other researchers (Aragon & Johnson, 2008; Willging & Johnson, 2009) who found that non-completion related to courses (quality of course design and delivery, group work is too hard) or institutional issues (advisement, enrollment procedures). Based on these findings, the executive MPH program leadership should ensure that students receive appropriate advisement and that courses are periodically reviewed for improvements. Additionally, the program should make sure that students know how to share concerns outside of course evaluations and the annual student satisfaction survey.

In addition to connections with program faculty, staff, and students, my study also looked at connectedness with the institution (executive MPH program, school, and/or university). For those who spoke about connectedness to the institution, some were candid in saying that the online nature of the program limited the connectedness that they had. Some talked about walking around campus during the on-campus weekends in order to feel a part of the university; and others mentioned that their connection came from sources other than being an executive MPH student. Although institutional connectedness did not appear to affect student success, the executive MPH program leadership may consider working with school leadership (e.g., student services, career services, alumni staff) to increase program and school communications (email,

newsletters, social media) with executive MPH students and to sponsor joint programming between the executive MPH students and campus-based students.

Academic status and performance. My study found that those who were more likely to be in good standing were enrolled fulltime. This finding is inconsistent with the literature which found that the more credit hours taken in the current semester, the less likely the student was to pass the course (Doherty, 2006; Osborn, 2001).

When GPA at the fifth semester was examined, for every unit of increase in GPA at the fifth semester, the probability of being in good standing increased 12%. Additionally, as GPA at the fifth semester increased, participants were more likely to have good performance in the online orientation course. These findings are consistent with those who have found that successful students have a higher GPA (Aragon & Johnson, 2008; Boston et al., 2011; Harrell & Bower, 2011; Muse, 2003; Wojciechowski & Palmer, 2005).

My study also found that participants who were less likely to be in good standing, had been on academic probation. In addition, the more credits participants failed, the less likely they were to be in good standing; and for every unit of increase seen in the difference between credits attempted and credits completed, the probability of being in good standing decreased by 9%. These findings are consistent with Niemi and Gitin (2012) who concluded that if a student's performance declines over time, the student is more likely to dropout.

Bad performance in the online orientation course was correlated with negative academic metrics (i.e., increase in credits resulting in failure, increase in difference between credits attempted and completed) meaning that as the number of credits resulting in failure increased–or the larger the difference between the number of credits attempted and number completed–the more likely the participant was to have bad performance in the online orientation course.

The findings related to academic status and performance suggest that the executive MPH program leadership should monitor student performance and intervene when students demonstrate

negative metrics (e.g., academic probation, increase in credits resulting in failure, increase in difference between credits attempted and completed).

On-campus sessions. Although the majority of the interview participants in my study spoke positively about the on-campus sessions, participants in the "downward achievement" group had negative comments about these weekends. These individuals perceived the weekends to be costly, unnecessary, and/or took time away from family. The negative comments were not shared by participants in the other three participant groups. The on-campus weekends are a fundamental part of the executive MPH program's structure but it may be important for program leadership to make sure that faculty and the program interact with students in meaningful ways during these on-campus times. It is also important for the executive MPH leadership to ensure that prospective students are aware of the required nature of these weekends.

Online orientation course. Orientation sessions are viewed favorably in the literature (Ali & Leeds, 2009; Bozarth et al., 2004; Morris & Finnegan, 2008; Nash, 2005; Wojciechowski & Palmer, 2005) and overall, this is a consistent finding with my study. Although performance in the online orientation course is not statistically related to program success, interview participants in my study did discuss the value of the orientation. The majority of participants made positive comments about their experience in the online orientation. Some shared mixed reactions about the ability to socially connect with others during this online activity. For those who expressed negative comments about the online orientation course, they generally liked the concept of an orientation but felt that the implementation should be changed so that it was shorter, self-paced, and/or optional. Two of participants also felt like there was no advanced warning about the orientation. The executive MPH program leadership should make sure that new students have information about the timing and expectations for the online orientation.

Learning and teaching styles. When students are asked why they did not complete a course, the incongruence between learning and teaching styles is one reason given (Aragon & Johnson, 2008; Perry et al., 2008). Although one interview participant in my study indicated that

the lack of faculty-student interaction during instruction–and use of lectures–was partially responsible for her decision with withdraw, misalignment between learning and teaching styles was not a primary reason for program withdrawal. When asked about the alignment between learning and teaching styles, the "downward achievement" and "successful predictors – bad" groups had participants with both alignment and misalignment of styles yet half of these participants spoke of a misalignment. This was different than the "successful predictors – good" and "upward achievement" groups, where only one of the eight participants discussed a clear mismatch between learning and teaching styles.

These findings suggest that the executive MPH program leadership should discuss the program's asynchronous teaching style with prospective students. Depending on the course content and pedagogical needs, faculty may also be encouraged to teach in ways that meet multiple learning styles. The program might also consider whether optional synchronous interactions (such as recorded office hours) should be periodically added.

Expectations and experience. When interview participants in my study discussed program expectations and how they aligned with their experiences, most expressed high expectations that aligned with their reality. Those who commented on the program's online structure felt that this did not alter their expectations, except for a few participants who thought the online aspect might make the program more challenging. Although some participants in the "downward achievement" group had high expectations that matched their experience, participants in the "successful predictors – good" and "upward achievement" groups tended to have stronger alignment between rigorous expectations and their experiences. These findings suggest that the executive MPH program leadership should discuss the program's rigorous approach to instruction with prospective students. The program should also continue to use current students and/or alumni in recruitment process so that they can share their experiences with prospective students.

Rovai Revisited

In the Rovai (2003) model, student persistence is affected by four sets of factors: a) student characteristics, b) student skills, c) external factors, and d) internal factors. Rovai's model was developed for use with undergraduate populations and therefore my study provided an opportunity to extend the model to a graduate professional school population.

Adaptation of Rovai for MPH Students

After reviewing the findings from my study, I believe that the overarching four factors of the model hold true with my population although the specific characteristics within each factor may differ from the original model. The reasons for the different characteristics are three-fold: a) I examined a characteristic that Rovai did not examine, b) I did not examine the characteristic, or c) I examined the characteristic but did not find it worthy of inclusion in a revised model. For example, I included years of work experience in my research but Rovai did not examine this student characteristic. Additionally, the student characteristic "intellectual development" which is found in the original Rovai model was not tested in my study. Finally, the external factor of "life crises" from the original model was tested in my study but was not important in my participants' decision to persist.

Based on my findings, I have revised the Alperin adaption of the Rovai model that was presented in Chapter 3 (Figures 4 and 5). For a characteristic to be included in the revised model, one of four statements had to be true: a) there was a statistically significant correlation between the characteristic and good standing (or some other performance metric), b) the linear probability model showed a statistical association between the characteristic and good standing, c) the qualitative findings suggested a difference between the characteristic and one of the participant groups (successful predictors – good standing, successful predictors – bad standing, upward achievement cases, downward achievement cases), or d) an overarching number of interview participants talked about the importance of the characteristic.

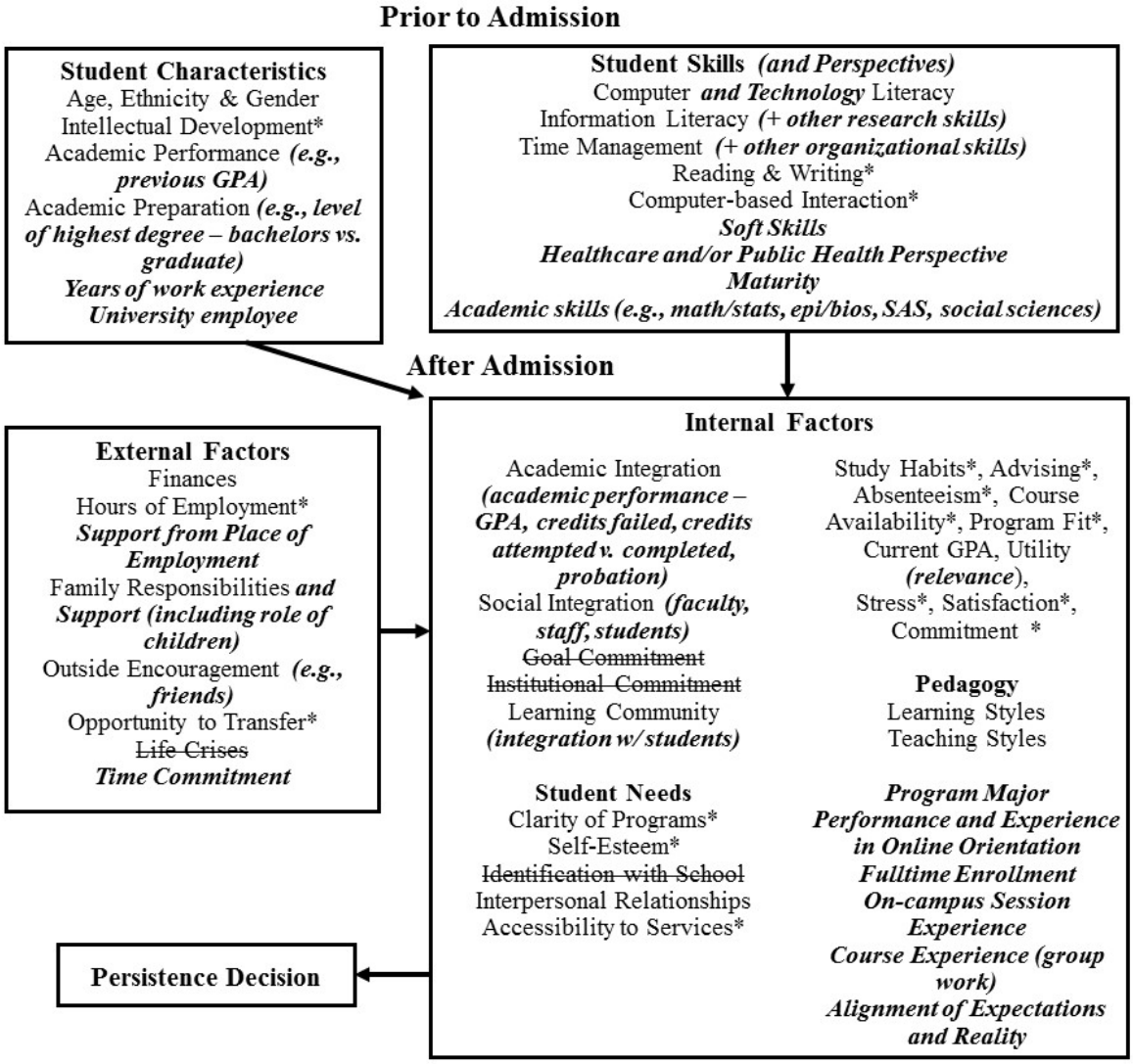

Figure 4. Rovai Model with Alperin Characteristics Overlaid. Items in unbolded font are in both the original Rovai model and the Alperin revised model. Items in bold italics are new characteristics that are not in the original Rovai model. Items with a strike-through are characteristics that were examined in the current research but not included in the Alperin revised model. Items with an asterisk, were not fully examined in the current research and are not included in the Alperin revised model.

Figure 4 illustrates the Rovai model with characteristics from the Alperin adaption superimposed onto the original model. There were a number of characteristics from the original Rovai model that I did not examine. Some of these items (e.g., intellectual development, self-esteem) would have involved the use or development of an additional instrument and were therefore deemed beyond the scope of my research. Others (e.g., reading and writing, opportunity to transfer, course availability) were not applicable to my participants. A final group

of traits (e.g., advising, satisfaction, stress) were not part of my formal interview protocol but were discussed by some of my participants; and in retrospect, could have been included in all of the interviews. This provides an opportunity for future research to include these components. Figure 5 is the Alperin Adaptation of Rovai Model for Graduate Students in MPH Degree Programs.

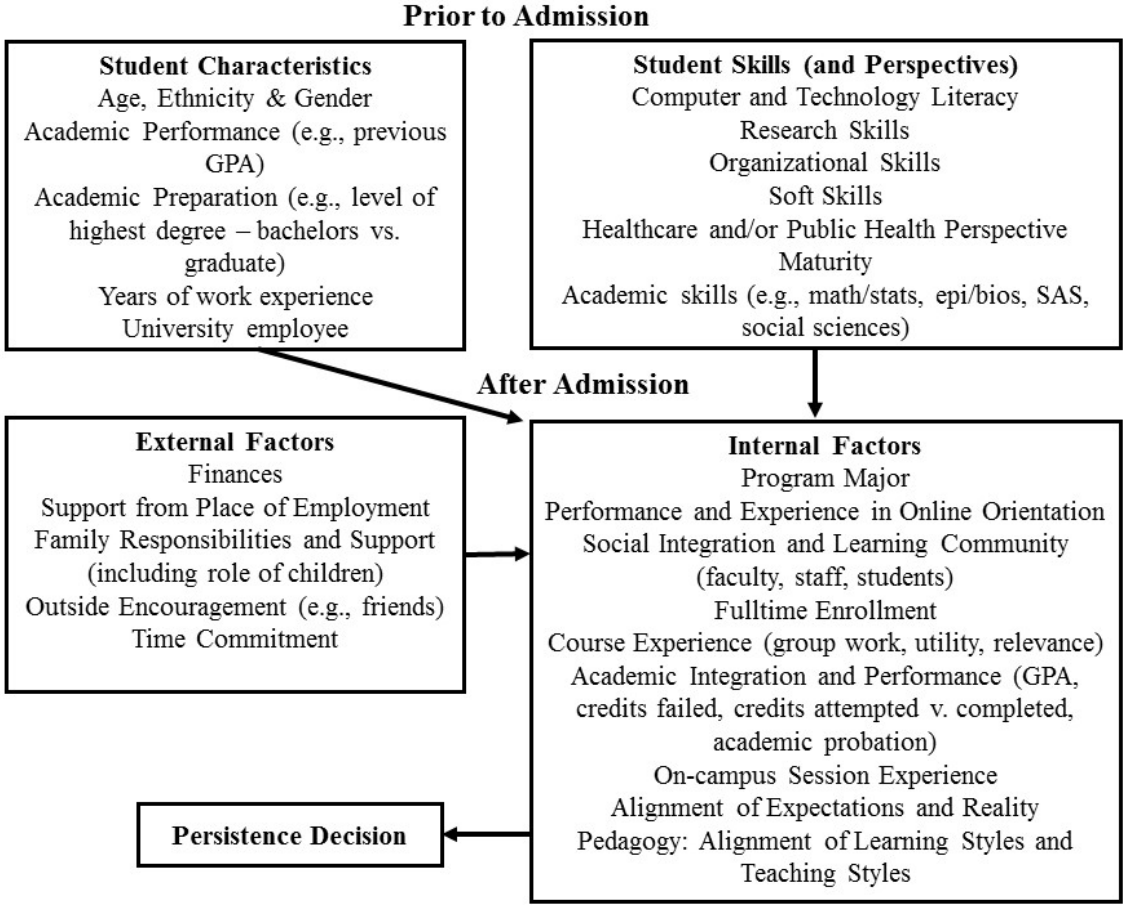

Figure 5. Alperin Adaptation of Rovai Model for Graduate Students in MPH Degree Programs

Rovai Model by Interview Groups

In order to describe and then summarize the similarities and differences among my interview groups, I modified the Alperin Adaption of the Rovai Model for each individual group. Figures 6-9 illustrate each model and represent the population of participants for each group rather than the smaller sample of participants that were included in the semi-structured

interviews. Data included in each model are from Table 10: *Summary Statistics by Interview Group* and the qualitative findings which are presented in Chapter 5.

Successful predictors – good. Figure 6 describes the "successful predictors – good" group (n=148). In this group, 78% of the participants were female and 50% were white/Asian followed by 36% who were underrepresented minorities and 14% were categorized as other race. For 55% of the participants, the highest degree earned was a bachelor's degree. The average age was 36 years and the average number of years of work experience prior to enrollment was 9 years. The pre-enrollment GPA was 3.25 and 34% of the participants were university employees, which suggests that they were able to take advantage of the courtesy scholarship benefit.

Skills and perspectives that were determined to be important prior to program enrollment were computer and technology literacy skills, research skills, organizational skills, soft skills, healthcare and/or public health perspectives, maturity, and academic skills that include both quantitative and social sciences skills.

Once enrolled, important external factors included a need for social support (e.g., family, friends) and a time commitment. Additionally this group proactively planned for the financial resources the program required.

Fifty-five percent of the participants in this group were Prevention Science majors, followed by 29% were Applied Epidemiology majors, 14% were Applied Public Health Informatics majors, and 2% were Healthcare Outcomes majors. Fifty-three percent were enrolled fulltime. When looking at performance in the online orientation course, 45% had normal performance, 30% had good performance, 18% had bad performance, and 6% had mixed performance. Academic performance at the fifth semester included an average GPA of 3.73, average number of credits resulting in failure was 0.10, average difference between credits attempted and credits completed was 0.22, and 3% had been on academic probation. This group also had an alignment between high program expectations and experience; and an alignment

between learning and teaching styles. Social integration with faculty, staff and students was important as was the need for positive course experiences.

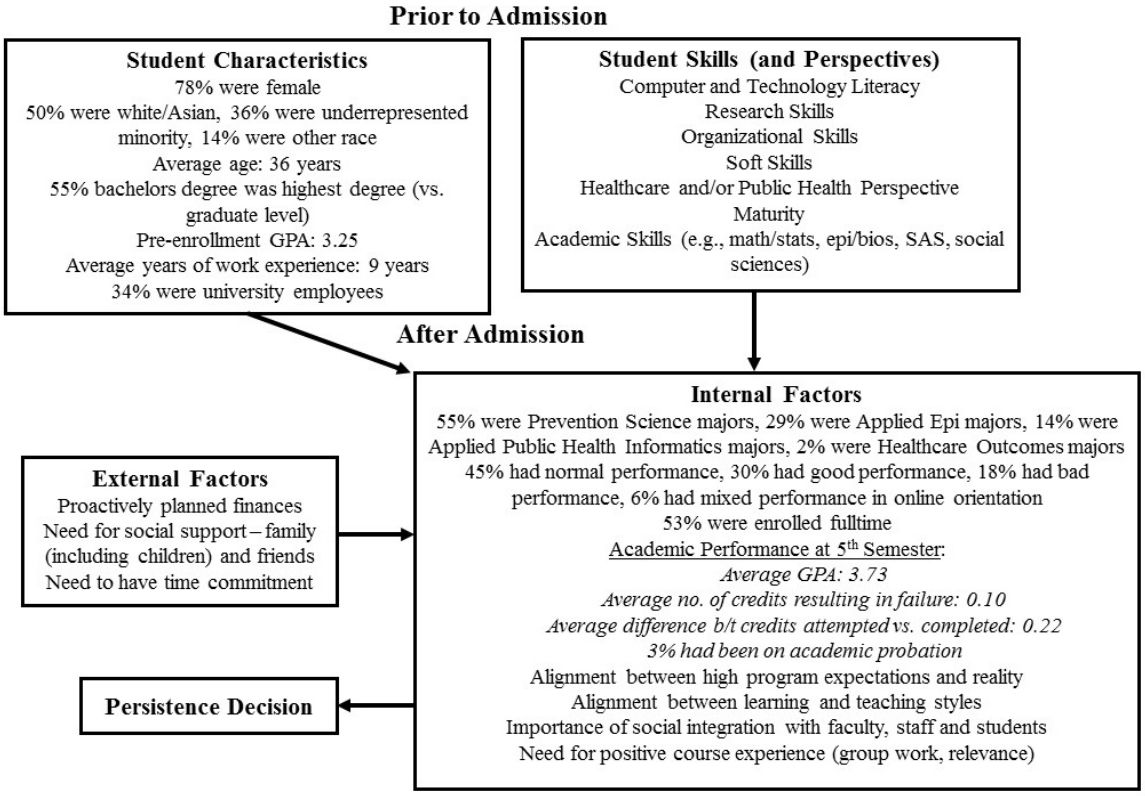

Figure 6. Alperin Adaption of Rovai Model – Successful Predictors – Good (n=148)

Successful predictors – bad. Figure 7 describes the "successful predictors – bad" group (n=25). In this group, 52% of the participants were female and 48% were an underrepresented minority followed by 32% who were categorized as other race, and 20% were white/Asian. For 44% of the participants, the highest degree earned was a bachelor's degree. The average age was 37 years and the average number of years of work experience prior to enrollment was 6 years. The pre-enrollment GPA was 3.16 and 40% of the participants were university employees, which suggests that they were able to take advantage of the courtesy scholarship benefit.

Skills and perspectives that were determined to be important prior to program enrollment were computer and technology literacy skills, research skills, organizational skills, soft skills,

healthcare and/or public health perspectives, maturity, and academic skills that include both quantitative and social sciences skills.

Once enrolled, important external factors included a need for social support (e.g., family, friends) and a time commitment. Additionally this group received negative support from their places of employment.

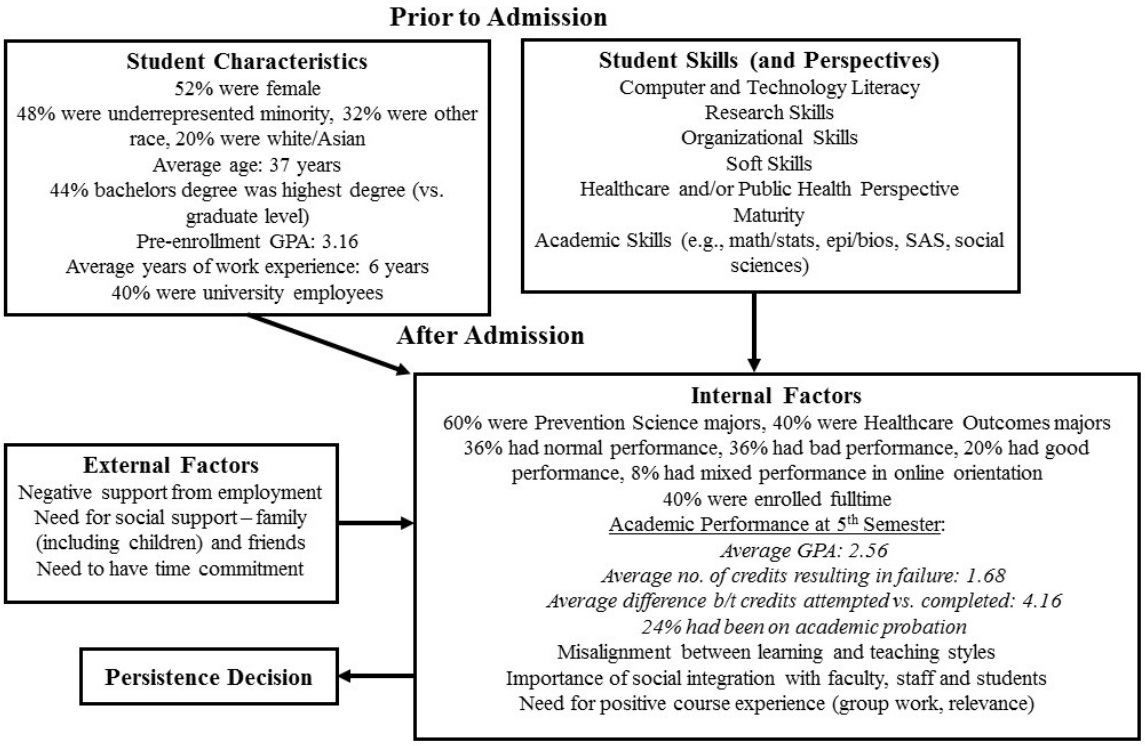

Figure 7. Alperin Adaption of Rovai Model – Successful Predictors – Bad (n=25)

Sixty percent of the participants in this group were Prevention Science majors and 40% were Healthcare Outcomes majors. Forty percent were enrolled fulltime. When looking at performance in the online orientation course, 36% had normal performance, 36% had bad performance, 20% had good performance, and 8% had mixed performance. Academic performance at the fifth semester included an average GPA of 2.56, average number of credits resulting in failure was 1.68, average difference between credits attempted and credits completed was 4.16, and 24% had been on academic probation. This group also had a misalignment

between learning and teaching styles. Social integration with faculty, staff and students was important as was the need for positive course experiences.

Upward achievement cases. Figure 8 describes the "upward achievement cases" (n=6). In this group, 17% of the participants were female; 50% were white/Asian and 50% were an underrepresented minority. For 33% of the participants, the highest degree earned was a bachelor's degree. The average age was 42 years and the average number of years of work experience prior to enrollment was 14 years. The pre-enrollment GPA was 3.08 and 50% of the participants were university employees, which suggests that they were able to take advantage of the courtesy scholarship benefit.

Skills and perspectives that were determined to be important prior to program enrollment were computer and technology literacy skills, research skills, organizational skills, soft skills, healthcare and/or public health perspectives, maturity, and academic skills that include both quantitative and social sciences skills.

Once enrolled, important external factors included a need for social support (e.g., family, friends) and a time commitment. Additionally this group proactively planned for the financial resources the program required.

Fifty percent of the participants in this group were Applied Public Health Informatics majors and 50% were Healthcare Outcomes majors. Seventeen percent were enrolled fulltime. When looking at performance in the online orientation course, 67% had normal performance and 33% had bad performance. Academic performance at the fifth semester included an average GPA of 3.40, average number of credits resulting in failure was 1.33, average difference between credits attempted and credits completed was 1.67, and 17% had been on academic probation. This group also had an alignment between high program expectations and experience; and an alignment between learning and teaching styles. Social integration with faculty, staff and students was important as was the need for positive course experiences.

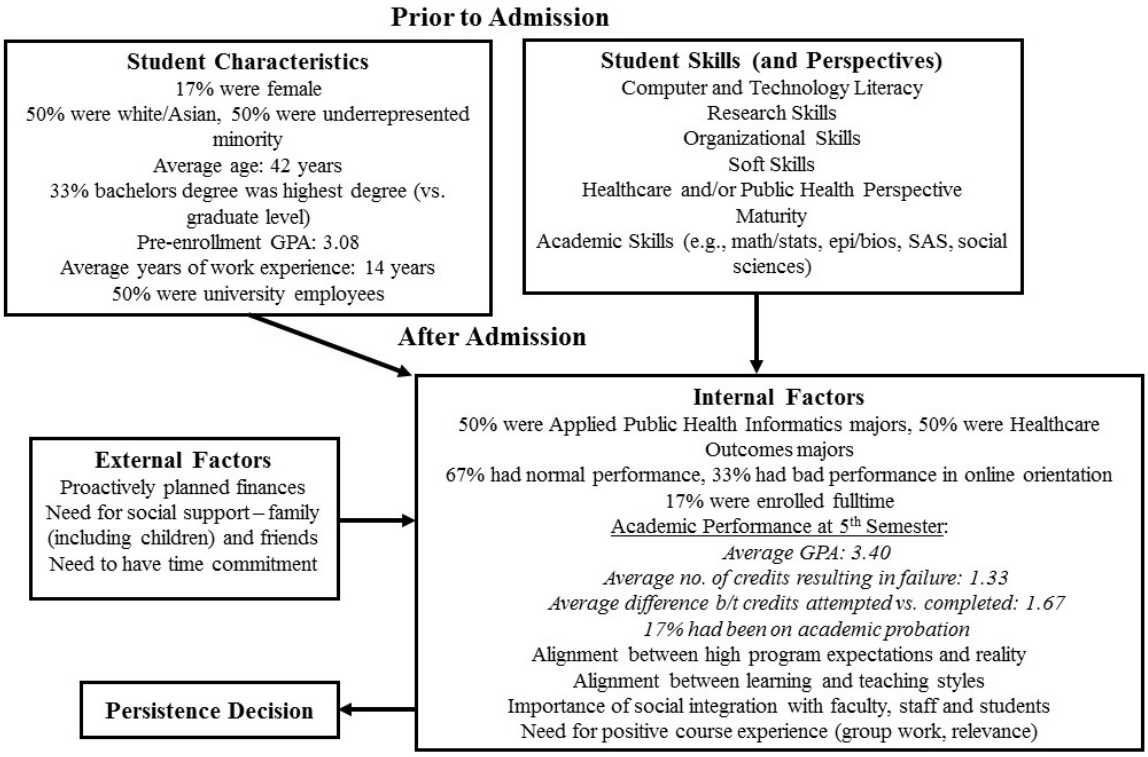

Figure 8. Alperin Adaption of Rovai Model – Upward Achievement Cases (n=6)

Downward achievement cases. Figure 9 describes the "downward achievement cases" (n=31). In this group, 68% of the participants were female and 42% were white/Asian followed by 39% who were an underrepresented minority, and 19% were categorized as other race. For 55% of the participants, the highest degree earned was a bachelor's degree. The average age was 38 years and the average number of years of work experience prior to enrollment was 11 years. The pre-enrollment GPA was 3.24 and 42% of the participants were university employees, which suggests that they were able to take advantage of the courtesy scholarship benefit.

Skills and perspectives that were determined to be important prior to program enrollment were computer and technology literacy skills, research skills, organizational skills, soft skills, healthcare and/or public health perspectives, maturity, and academic skills that include both quantitative and social sciences skills.

Once enrolled, important external factors included a need for social support (e.g., family, friends) and a time commitment.

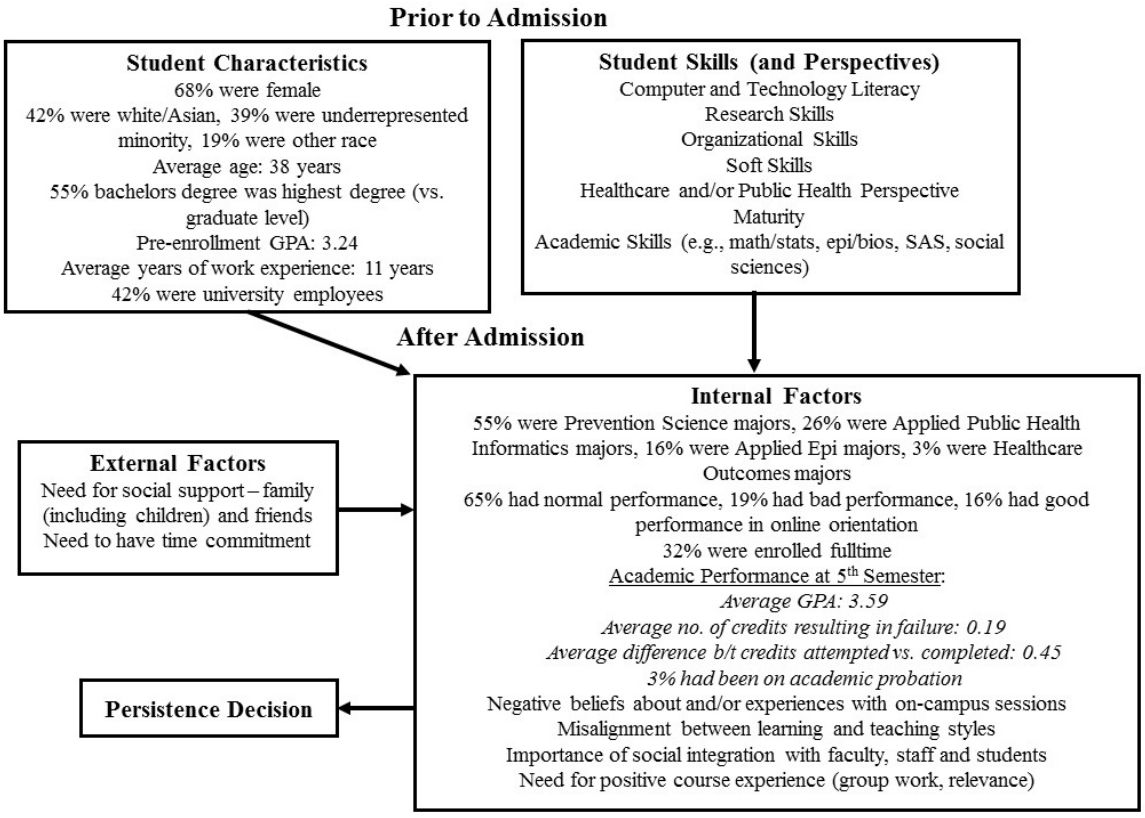

Figure 9. Alperin Adaption of Rovai Model – Downward Achievement Cases (n=31)

Fifty-five percent of the participants in this group were Prevention Science majors followed by 26% were Applied Public Health Informatics majors, 16% were Applied Epidemiology majors, and 3% were Healthcare Outcomes majors. Thirty-two percent were enrolled fulltime. When looking at performance in the online orientation course, 65% had normal performance, 19% had bad performance, and 16% had good performance. Academic performance at the fifth semester included an average GPA of 3.59, average number of credits resulting in failure was 0.19, average difference between credits attempted and credits completed was 0.45, and 3% had been on academic probation. This group shared negative beliefs and/or experiences with the on-campus sessions and expressed a misalignment between learning and teaching styles. Social integration with faculty, staff and students was important as was the need for positive course experiences.

Similarities and differences across groups. When examining similarities and differences across groups, it is important to remember the size of each group compared to the others. For example, there are only six "upward achievement cases" yet there are 25 "successful predicators – bad" participants, 31 "downward achievement cases," and 148 "successful predicators – good" participants.

When student characteristics are examined across groups, there is variation in the percent of participants who were female with 17% of the "upward achievement cases" being female, followed by 52% of the "successful predictors – bad" participants, 68% of the "downward achievement cases," and 78% of the "successful predictors – good" participants. The distribution across race also varies with the percent that were white/Asian varying from 20% ("successful predictors – bad") to 50% ("upward achievement" and "successful predictors – good"); and the percent who were underrepresented minorities varying from 36% ("successful predictors – good") to 50% ("upward achievement"). The average age at time of enrollment was similar across groups and ranged from 36-42 years. Thirty-three percent of the "upward achievement cases" had a bachelor's degree as their highest degree which indicates that 67% had advanced degrees. In comparison, 55% of both the "downward achievement cases" and "successful predictors – good" participants had a bachelor's degree as their highest degree which means that only 45% of participants in these groups had advanced degrees. Previous GPAs across the groups ranged from 3.08-3.25. Differences in groups were seen in the average years of work experience prior to employment and percent of participants who were university employees. The "successful predictors – bad" participants had an average of 6 years of prior work experience while the "upward achievement cases" had 14 years. When looking at university employment, the percent varied from 34% ("successful predictors – good") to 50% ("upward achievement").

Skills and perspectives were not a distinguishing characteristic across groups and it was determined that all participants, regardless of group, needed the following skills prior to enrollment: computer and technology literacy skills, research skills, organizational skills, soft

skills, healthcare and/or public health perspectives, maturity, and academic skills that include both quantitative and social sciences.

Important external factors across all groups were the need for social support (e.g., family, friends) and the willingness to make the time commitment needed for school. In addition, both the "upward achievement cases" and the "successful predictors – good" participants had proactively planned for the financial resources that the program required. The "successful predictors – bad" group received negative support from their places of employment.

An examination of internal factors also illustrates both commonalities and differences across the four groups. Distributions across program majors and online orientation performance are varied and illustrated in Table 12.

Table 12

Program Major and Online Orientation Performance Percentages by Interview Group

	Interview Groups[a]			
	SPG n=148	SPB n=25	UA n=6	DA n=31
	Percent	Percent	Percent	Percent
Major				
Applied Epidemiology	29	0	0	16
Applied PH Informatics	14	0	50	26
Healthcare Outcomes	2	40	50	3
Prevention Science	55	60	0	55
Online Orientation – Overall Performance				
Bad	18	36	33	19
Normal	45	36	67	65
Good	30	20	0	16
Mixed (Elements of Bad and Good Performance)	6	8	0	0

[a] Interview Groups: DA = Downward Achievement, SPB = Successful Predictors – Bad, UA = Upward Achievement, SPG = Successful Predictors – Good

When fulltime enrollment is examined, the percent varied from 17% ("upward achievement") to 53% ("successful predictors – good"). The "successful predictors – good" group had the best academic performance metrics at the fifth semester (average GPA: 3.73; average number of credits resulting in failure: 0.10; average difference between credits attempted

versus completed: 0.22; percent who had been on academic probation: 3%). The "successful predictors – bad" group had the worst academic performance metrics at the fifth semester (average GPA: 2.56; average number of credits resulting in failure: 1.68; average difference between credits attempted versus completed: 4.16; percent who had been on academic probation: 24%).

Important internal factors across all groups were the need for social integration with faculty, staff, and students; and the need for positive course experiences. In addition, both the "upward achievement cases" and the "successful predictors – good" participants had alignment between high program expectations and experience; and alignment between learning and teaching styles. Both the "downward achievement cases" and the "successful predictors – bad" participants had misalignment between learning and teaching styles. In addition, the "downward achievement cases" shared negative beliefs and/or experiences with the on-campus sessions.

An examination of these models illustrates the importance of both quantitative and qualitative approaches to the examination of student success in the master of public health (MPH) population as the data from the qualitative findings enhanced the quantitative findings and extended my understanding of the student experience.

Recommendations for Practice

In this section, I provide a series of program recommendations based on my findings. While these recommendations are directed at the executive MPH program, many are appropriate for other graduate level distance-based degree programs. Many of the recommendations are things that the executive MPH program currently does to some extent or is in the process of formalizing. The recommendations are organized into nine categories: recruitment and admissions, advisement of new students, faculty-student interactions, curriculum and academic requirements, student monitoring and academic advisement, student-student/alumni interactions, informational communications, feedback mechanism, and other.

Recruitment and Admissions

The executive MPH program should make sure to advise prospective students on the skill sets that previous students have identified as important to success. Program staff should also talk with prospective students about learning and teaching styles and provide them with information about the program's approach to instruction (e.g., asynchronous, teaching strategies and assessment methods used). Prospective students need to understand that the online nature of the program does not mean the program is an MPH-lite degree; rather it is rigorous and requires near daily interaction with course materials. Additionally, program staff should seek ways to engage current students and alumni in recruitment efforts. Perhaps these individuals can reach out to newly accepted students to answer questions and tell them about their program experience.

To address the finding that university employees had negative academic metrics as well as the comment that university employees appeared to have different admission criteria, the program should review admission practices to ensure that they do not vary between university and non-university applicants. In addition, during the review of applications, program leadership should take note of pre-enrollment GPAs, prior employment experience, and search for applicants who have the maturity and intellectual curiosity to excel in a distance-based MPH program.

Beginning during recruitment and admissions (and continuing during the advisement process), program staff should have candid conversations with individuals about the time commitment and finances required to complete the program. For those applicants who will need federal financial aid, they must understand the credit hour requirement to qualify for financial aid.

Advisement of New Students

When advising new students, program staff should talk with new students about securing support from family and friends. For individuals with children, they should be encouraged to consider how program enrollment will change their availability for family and their children's activities. Additionally, the program should encourage new students to secure support from their place of employment, including time off for on-campus weekends. In addition to meeting with

their supervisor, new students might consider talking with their co-workers especially if the individuals work in collaborative environments. When talking with supervisors, things to consider include a) Can school be included in a professional development plan? b) Can time during the workday (or at lunch) be used for studies? c) Does the agency have a tuition reimbursement plan and how does it work? When advising new students, program staff should make sure that students have the needed information (purpose, timing, required engagement) about online orientation. For students who may be at risk for lower academic metrics, the program should consider the development and implementation of preparation or pre-requisite activities (e.g., math refresher) for students prior to the first semester of enrollment.

Faculty-Student Interactions

Participants in my study wanted connections and interaction with faculty as well as faculty who were responsive to student needs. The executive MPH program leadership should look for ways to increase socialization between faculty and students. One suggestion is to encourage faculty to eat with students during the on-campus sessions. Another is to involve more faculty in track meetings. The program should also work with faculty to make certain that courses include faculty-student interactions.

To ensure that the appropriate level of responsiveness is achieved, faculty should determine what questions can wait 24 hours and which ones may need a faster response. For example, a student who is actively using SAS and has a problem with the coding, may need a response in less than 24 hours. In certain courses–or for particular assignments–faculty or teaching assistants may need to check-in more frequently than once per day.

Curriculum and Academic Requirements

The program should work with faculty to periodically update courses and make sure they are relevant and when appropriate, assignments are application oriented. Depending on the course content and pedagogical needs, faculty should also be encouraged to use new teaching and assessment strategies which will allow them to reach individuals with multiple learning styles.

Several participants in my study commented on their desire to have more "lectures" and so the program might consider the role of the "lecture" in executive MPH courses. The program should also consider whether periodic and optional synchronous interactions (e.g., recorded office hours, touchpoints) should be added to courses.

For those who questioned the value of the on-campus sessions, faculty should make certain to interact with students in meaningful ways during the on-campus course meeting times so that these interactions are more than what could be accomplished in an online setting. Faculty should make sure to release course materials so that students have ample time to complete the assignments. Since numerous participants commented on the challenges of group work, program leadership and faculty should continue to refine current processes and procedures in order to enhance the group experience while diminishing the negative aspects of group work. They should also ensure that there is accountability for those who do not pull their weight in group projects.

Student Monitoring and Academic Advisement

The program should have a surveillance system to monitor student academic progress and intervene when students start to demonstrate negative metrics (e.g., increase in credits resulting in failure, increase in difference between credits attempted and completed, academic probation) or have gradual declines over time. This includes watching student performance in the program's online orientation course. Although performance in the online orientation was not tied to student success, it was significantly correlated to other academic performance metrics.

As student needs are identified, program leadership and faculty should direct students to existing resources and needed services (e.g., writing services). When needed services are not available, the program should develop or work with others to secure these services (e.g., presentation skills workshops). The program should also make sure that students understand the consequences of altering their program of study (e.g., dropping classes). Additionally, program

staff should take a proactive approach to advisement for all students rather than waiting for individual students to seek out guidance.

Student-Student/Alumni Interactions

Although faculty-student interactions were a bigger issue than student-student interactions, the executive MPH program should consider ways to increase student-student and/or student-alumni interactions. Suggestions include having in-person or online lunch 'n learn types of activities that involve both learning and a social aspect. Another idea is to invite local program alumni to interact with executive MPH students in either an academic or social setting. Additionally, to address the finding that underrepresented minority students sometimes demonstrated lower academic metrics, the program might develop a mentoring program to connect these students with successful alumni from underrepresented populations.

Informational Communications

Informational communications came up multiple times and the program should develop communication mechanisms for students and alumni that are external to the Blackboard environment (e.g., email updates, newsletter, LinkedIn or Facebook group). The program might also consider whether these communications should include individuals who left the program without completing.

Feedback Mechanism

The program has individual course evaluations and an annual student satisfaction survey but program leadership should ensure that students know how to share concerns outside of these mechanisms.

Other

Several study participants talked about their experiences with career services. The executive MPH program should work more proactively with the school's office of career development to ensure that the needs of the executive MPH students are being met. Program leadership should determine other student needs for ancillary services and secure these as well.

Future Research

Ideas for further research fall into four categories, which are not mutually exclusive: further testing of the Rovai model, addressing study limitations, exploration of study findings, and additional questions.

Further Testing of Rovai Model

One area of future research is to further test the Rovai model. This can be done by a) further examining constructs included in my research, b) examining constructs not tested in my research (e.g., academic preparation, intellectual development, accessibility to services), c) examining another population within the executive MPH program, and/or d) examining a population from another online MPH program, perhaps a program that is 100% online.

The interview protocol might also be broadened to include additional questions. Although some interview participants volunteered this information, additional areas that I might have explored with *all* participants include:

- prior experience with distance learning;
- clarity of the program (program structure, program operations, policies and procedures);
- time spent on school versus other obligations;
- relevance of coursework;
- experience with practicum and thesis requirements; and
- access to ancillary services (e.g., career services, library, financial aid advisors, tech support).

Addressing Study Limitations

Additional research might address some of my study limitations that were previously discussed in Chapter 3. For example, based on the timeframe that I used, participants who began the program in fall 2013, had only been enrolled for five semesters. Instead, future research

might study individuals after their 7th semester (for fulltime students) or 11th semester (for part-time students), which are the timeframes in which the program would expect a student to complete the degree. Future data might also capture changes such as switches to new majors versus using data at time of enrollment.

Another limitation is that my study only interviewed 19 individuals but future studies could expand the number of interviews or the findings from my study could be used to develop a quantitative survey that is disseminated to a much larger number of participants.

Future research should also try to address the additional limitations of recall bias and figuring out how to engage participants in "bad" standing who have more than just 1-2 semesters of program experience.

Further Exploration of Study Findings

Future research might also further explore findings from my research. For example, why were those who were more likely to be in good standing Applied Epidemiology majors? What is the experience of the underrepresented minority students and what distinguishes between the successful and unsuccessful underrepresented minority student? Does the alignment between rigorous program expectations and experiences really distinguish between individuals in good and bad standing? Does negative support from place of employment really distinguish "successful predictors – bad" from other participants? Do issues around money and finances really distinguish between individuals in good and bad standing? Do negative thoughts about the on-campus weekends, distinguish "downward achievement cases" from other participants? Does alignment between learning and teaching styles really distinguish between individuals in good and bad standing?

Additional Questions

A final area of possible research is to explore new questions related to student success. For example, for students who take a break from courses, is there a magic number where if they sit out for that many semesters, they are less likely to return and complete their degree? What is

the effect of taking special standing courses prior to matriculation on program completion? Another area of inquiry might be to divulge interview category (successful predictors – good, successful predictors – bad, upward achievement, downward achievement) to participants and explore their thoughts about this assignment. Additionally, in my current research I had a single interview protocol. In future research, interview questions might differ based on a participant's group assignment.

Summary

As cited in Chapter 1, in the United States, the growth of students taking online courses has outpaced the growth of the overall higher education student body (Allen & Seaman, 2014). As institutions of higher education and their students invest resources in this mode of instruction, it becomes imperative that higher education practitioners and researchers understand why some students succeed in this environment and others do not. A better understanding of the student experience allows institutions of higher education–including schools and programs of public health–to target those individuals who are more likely to succeed; and provide resources to those students who have enrolled but are at risk for not completing their programs of study.

Using the Composite Persistence Model by Rovai, this mixed methods study examined predictors of student success in a distance-learning MPH program. The overarching questions were a) what are the predictors of student success in an online hybrid program of study, where success is defined by students' program standing? and b) what were the experiences of students with good and bad program standing? This chapter discussed key findings and how they relate to the literature previously reviewed. In addition, I revisited the Composite Persistence Model by Rovai as well as discussed recommendations for practice and future research.

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Appendix A

Data Abstraction Definitions and Rules

5th Semester Data: The following data were determined at a student's 5th semester in the executive MPH program.

- GPA-5
- Fulltime vs. Part-time Status
- Difference between Number of Credits Attempted vs. Credits Completed
- Number of Credits Resulting in Failure (F, WF, IF)
- If Student Has Ever Been on Academic Probation

Program Standing: Program standing (good, bad) was determined as of the start of the summer 2015 semester.

Comment about Practicum and Thesis Hours: Many executive MPH students enroll in practicum and/or thesis credits yet do not complete their practicum or thesis in the semester that the credits are taken. Sometimes these credits are taken out of sequence to allow the student to be enrolled in 6 credits (and qualify for federal financial aid). Other times these are taken in the appropriate sequence but as a working professional, the student does not complete the work within the timeframe of the 12-week semester.

Ultimately, the timing of these credits is not critical. By the time the student graduates, he or she must have enrolled in 2 practicum credits and 4 thesis credits–and completed both the practicum project and thesis.

Determination of 5th semester: When determining the "5th semester" of enrollment, the following definitions were used.

- **Semester 1:** The first semester the student *matriculated* in the executive MPH program. Note: Prior to matriculation as a degree-seeking student, some students were enrolled as a "special standing" student which is a non-matriculated status. Students enroll in this status for multiple reasons. Some want to develop skills but do not want to matriculate as a degree seeking student. Others want to eventually matriculate as a degree seeking student and use the "special standing" status to "test the waters."
- **Semester 5:** The 5th semester in which a student was actually enrolled as a matriculated student. Therefore if a student took a semester off, he or she did not enroll that semester, and therefore, the semester did not count towards the 5 semesters. Note: Given the nature of the executive MPH student population–working professionals with a minimum of 3 years of experience but an average of 10 years–some students find themselves with a life circumstance (e.g., birth, death, personal or family illness, job change) where they need to take a semester off from courses.
- **Variation:** If a student was enrolled in less than 5 semesters, the "5th semester" data were pulled from the last semester of enrollment.

Determination of Fulltime (FT) or Part-time (PT) Status: The following definition was used when determining fulltime and part-time status.

FT/PT Status = (no. of credits attempted including practicum and thesis) ÷ 5*

Interpretation:
Fulltime Status: FT/PT Status ≥ 6.0 credits**
Part-time Status: FT/PT Status < 6.0 credits

* If student was enrolled in less than 5 semesters, the divisor is the number of semesters enrolled. For example, if a student attempted 18 credits and was enrolled in 3 semesters, FT/PT Status would be calculated as 18÷3 = 6.0

** The value of 6 was used as the delineation between fulltime and part-time status because until fall 2014, students had to be enrolled "fulltime"–defined by 6 credits–to qualify for federal financial aid.

Notes: When dividing the number of credits attempted by 5 (or by the number of semesters enrolled, if less than 5), the answer was truncated (not rounded to the nearest whole number). Therefore 5.80 was truncated to 5 and this individual was classified as a part-time student.

Determination of (Credits Attempted – Credits Completed): The following definition was used when determining the difference between credits attempted and credits completed.

Difference = Credits Attempted – Credits Completed

Note: When calculating the difference between the number of credits attempted and the number of credits completed, practicum and thesis credits were ignored. The reason for this is that some students had graduated and therefore had grades for practicum and thesis (they had completed their practicum and thesis). Other students did not yet have grades for practicum and thesis (because they had not finished these activities). Therefore, to have comparable situations, all thesis and practicum credits were excluded.

Calculation of 5th Semester GPA: When calculating the 5th semester GPA, the thesis grade was not included in the calculation. This was done because graduated students had taken thesis hours and had a thesis grade. Other students had taken thesis hours but did not yet have a thesis grade. By excluding the thesis grade, both groups were treated in a similar fashion. Additionally, thesis grades are typically A or A- and only inflate the GPA value. [Practicum is graded as Satisfactory/Unsatisfactory and therefore not included in the GPA calculation.]

Appendix B

Sample Email Recruitment Communications

INITIAL EMAILS

The following language was used to recruit participants for the semi-structured interviews.

Email to Those in Good Standing

Dear <fill in name>: In January 2014, I enrolled in a doctor of education (EdD) program at the University of Georgia. For my dissertation, I am conducting a study that examines the predictors of student success in the Executive MPH program. I would like to better understand the EMPH student experience so that programs like the EMPH program are better able to meet the needs of their students.

You are being asked to participate because you are (were) enrolled in the EMPH program at Emory University – and enrolled between fall 2010 and fall 2013. I received your contact information from the EMPH program. You must be 18 years or older to participate.

I am writing to ask if you have time and would be willing to assist me with my dissertation research – specifically, if I may call and interview you for 45-60 minutes?

If you have time to assist, please let me know and I will email back with some possible interview times and the consent form. Thank you so much for your consideration.

For those who are currently still enrolled, I will include the following sentence: Your participation (or decision not to participate) will in no way affect your current experience in the EMPH program.

Email to Those in Bad Standing

Dear <fill in name>: In January 2014, I enrolled in a doctor of education (EdD) program at the University of Georgia. For my dissertation, I am conducting a study that examines the predictors of student success in the Executive MPH program. I would like to better understand the EMPH student experience so that programs like the EMPH program are better able to meet the needs of their students.

You are being asked to participate because you were enrolled in the EMPH program at Emory University – and enrolled between fall 2010 and fall 2013. I received your contact information from the EMPH program. You must be 18 years or older to participate. I received your contact information from the EMPH program. You must be 18 years or older to participate.

I am writing to ask if you have time and would be willing to assist me with my dissertation research – specifically, if I may call and interview you for 45-60 minutes? Although you are no longer in the EMPH program, it is important for me to understand your experiences while you were enrolled. If you have time to assist, please let me know and I will email back with some possible interview times. Thank you so much for your consideration.

FOLLOW-UP EMAIL

For the follow-up emails, I replied back to the initial email so that the recipient had the original email. In addition, I added the following …

Dear <fill in name>: On <fill in date> I emailed to ask for your assistance in my dissertation research, which is a study that examines the predictors of student success in the Executive MPH program.

I am writing today to ask if you've had a chance to consider my request and if you have time to assist. Specifically, I would like to call and interview you for 45-60 minutes about your experience in the EMPH program. (additional information is below in my original email)

If you are able to help, please let me know and I will email back with some possible interview times. Thank you so much for your consideration.

If you do not want to receive any additional emails related to this project, please respond with the message "opt out" and I will not contact you again.

Thank you so much for your consideration.

Appendix C

Interview Protocol

Review Consent Form.

Time that consent was confirmed: _____

When you enrolled in an online program, what were your expectations about the (academic) intensity of the program?

- Do you expect it to be harder or easier than your previous degree program(s)? Why or why not?
- How has your experience aligned with or differed from your expectations?

Are there any skills that you possessed prior to enrollment that you think helped you? Are there skills that you wish you had prior to enrollment?

- Computer literacy skills?
- Time management skills?
- Other skills?

Based on your experience, how important are external factors such as family and friends? How have they affected your experience? (Were they a help or hindrance?)

- Are there other external factors that played a role in your experience?
- What about support (or lack of support) from your work?
    - If your job is/was supportive, in what ways (e.g., allowed you to study during the day, allowed you to attend class on Friday without taking vacation days)?

What role did finances play in your experience in the EMPH program?

For university employees: Would you have enrolled if courtesy scholarship had not been available?

Did you experience life events (either celebratory or crisis) during your time in the program? If so, what role did they play on your experience?

Tell me about your experiences with faculty and program staff?

- Do you feel a connection to them? Anyone (any position) in particular?
- If so, in what ways? If not, why not?

Tell me about your experiences with your fellow students?

- Do you feel a connection to them?
- If so, in what ways? If not, why not?

Tell me about your connection to the institution – to the EMPH program? To the school? To the university?

- If you feel a connection, what enhances that feeling?
- If you do not feel connected, what could be done to enhance that feeling?

When you think about your own learning style and how you learn best, does your learning style align with the program's teaching style? Why or why not?

What was your experience with the online orientation course?

- Did it prepare you for your courses? How (or why not)?
- Did it help you connect with other students? With program staff?

For those who withdrew or disappeared – what were the reasons for your program status?

What were your goals when enrolling in EMPH program? Have they been achieved – why or why not?

Best part of your EMPH experience?

Worst or most challenging? Most frustrating?

Is there anything else that I should have asked you about your experience in the EMPH program?

End Time of Interview: _____

Appendix D

Coding Taxonomy

_Quotes
_Recommendations
Expectation
- **Expect – Rigorous**
- **Expect – Easier**
- **Expect – Online v. F2F**
- **Expect – Reality Matched Expect**
- **Expect – Reality Did Not Match Expect**
- **Expect – Misc**

Experience w Other Programs
Skills
- **Skills – Computer** *(incl. Blackboard)*
- **Skills – Healthcare, Public Health**
- **Skills – Maturity** *(life experience)*
- **Skills – Organization** *(organization, time management, project management, study habits)*
- **Skills – Prompted**
- **Skills – Research** *(information seeking, writing, presentation)*
- **Skills – Soft Skills** *(leadership, interpersonal, communication, teamwork, adaptability, problem solving, conflict resolution)*
- **Skills – Other** *(cultural diversity)*

Skills – Needed
External
- **External – Family**
  - **External – Family Positive**
  - **External – Family Negative**
  - **External – Family Neutral**
  - **External – Role of Kids**
- **External – Friends**
  - **External – Friends Positive**
  - **External – Friends Negative**
  - **External – Friends Neutral**
- **External – Other**
- **External – Work**
  - **External – Work Positive**
  - **External – Work Negative**
  - **External – Work Neutral**
  - **External – Align Work and School** *(think strategically)*
  - **External – Work Was Priority** *(over school)*
  - **External – Work Demands Changed**
- **External – Finances**
  - **External – Finances No Role**
  - **External – Finances Role**
  - **External – Finances Non-Tuition** *(travel, hotel)*
  - **External – Finances Others Paid** *(courtesy scholarship, VA, work)*
- **External – Financial Aid**

External – Courtesy Scholarship
External – Life Events
External – Life Events Happy *(marriage, kids going to school)*
External – Life Events Sad *(death, health)*
External – Life Events Neutral *(job changes, move)*

Internal
Internal – Faculty/Staff *(incl. coursework)*
Internal – Faculty/Staff Positive *(experts, accessible, collegial, relations outside classroom, relevant, problem solvers)*
Internal – Faculty/Staff Negative *(too much work, not engaged, not remember students are working professionals)*
Internal – Faculty/Staff Other *(faculty struggled with lower students)*
Internal – Students
Internal – Students Positive *(lifelong friends)*
Internal – Students Negative *(students who lowered bar, bad student mentality)*
Internal – Students Groupwork
Internal – Students Diversity
Internal – Students Other *(observations about other students)*
Internal – Emory
Internal – Emory Connection *(walk campus, tix, SGA, alumni)*
Internal – Emory No Connection
Internal – Career Services
Internal – On-campus
Internal – Out of Towners *(hotel, travel)*
Internal – Learning and Teaching Style
Internal – PRS 500D
Internal – Other *(connection to CDC, thesis, librarians)*

Withdrew
Withdrew – Balance
Withdrew – Finances
Withdrew – Move
Withdrew – Not Meeting Needs
Withdrew – Work

Goals When Enrolled
Goals – Broaden Perspective
Goals – Career Change
Goals – Credibility
Goals – New Skills
Goals – Other

Why EMPH
Why EMPH – Content & Perspective
Why EMPH – Prestige of EU
Why EMPH – Rigor
Why EMPH – Structure
Why EMPH – Take Adv of Emory

Personality
Other
_Best Part
_Worst Part

Appendix E

IRB Letters

Phone 706-542-3199

Office of the Vice President for Research
Institutional Review Board

Fax 706-542-3660

APPROVAL OF PROTOCOL

April 20, 2015

Dear Sheila Slaughter:

On 4/20/2015, the IRB reviewed the following submission:

Type of Review:	Modification
Title of Study:	Predictors of Student Success in an Online Master of Public Health Program: A Mixed Methods Study
Investigator:	Sheila Slaughter
IRB ID:	MOD00001368
Funding:	None
Grant ID:	None

The IRB approved the protocol from 4/20/2015.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103).

Sincerely,

Larry Nackerud, Ph.D.
University of Georgia
Institutional Review Board Chairperson

629 Boyd Graduate Studies Research Center • Athens, Georgia 30602-7411
An Equal Opportunity/Affirmative Action Institution

EMORY UNIVERSITY | Institutional Review Board

Date: April 16, 2015

Melissa Alperin, MPH, MCHES
Principal Investigator
Behavioral Science

RE: **Exemption of Human Subjects Research**
IRB00080818
Predictors of Student Success in an Online Master of Public Health Program: A Mixed Methods Study

Dear Principal Investigator:

Thank you for submitting an application to the Emory IRB for the above-referenced project. Based on the information you have provided, we have determined on **4/16/2015** that although it is human subjects research, it is exempt from further IRB review and approval.

This determination is good indefinitely unless substantive revisions to the study design (e.g., population or type of data to be obtained) occur which alter our analysis. Please consult the Emory IRB for clarification in case of such a change. Exempt projects do not require continuing renewal applications.

This project meets the criteria for exemption under 45 CFR 46.101(b)(2). The purpose of this study is to examine predictors of student success in a distance-learning master of public health (MPH) program at Emory University. Specifically, you will conduct interviews with working professionals enrolled in the MPH program focused on student success predictors in distance-learning master programs.

- Emory IRB Protocol_Alperin.pdf
- Interview Guide_Alperin_021615.pdf
- UGA-Emory Consent_Alperin_033115.pdf

Please note that the Belmont Report principles apply to this research: respect for persons, beneficence, and justice. You should use the informed consent materials reviewed by the IRB unless a waiver of consent was granted. Similarly, if HIPAA applies to this project, you should use the HIPAA patient authorization and revocation materials reviewed by the IRB unless a waiver was granted. CITI certification is required of all personnel conducting this research.

Unanticipated problems involving risk to subjects or others or violations of the HIPAA Privacy Rule must be reported promptly to the Emory IRB and the sponsoring agency (if any).

In future correspondence about this matter, please refer to the study ID shown above. Thank you.

Sincerely,

Carolyn Sims, MPA
Research Protocol Analyst

Appendix F

Consent Form

UNIVERSITY OF GEORGIA/EMORY UNIVERSITY
CONSENT FORM

Predictors of Student Success in an Online Master of Public Health Program: A Mixed Methods Study

Researcher's Statement: I am asking you to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. This form is designed to give you the information about the study so you can decide whether to be in the study or not. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. When all your questions have been answered, you can decide if you want to be in the study or not. This process is called "informed consent." A copy of this form will be given to you.

University of Georgia Principal Investigator and Faculty Advisor:	Sheila Slaughter, PhD Institute of Higher Education University of Georgia slaughtr@uga.edu
Emory University Principal Investigator and UGA Doctoral Student:	Melissa Alperin, MPH, MCHES Rollins School of Public Health Emory University malperi@emory.edu

Purpose of the Study: The purpose of this study is to examine predictors of student success in a distance-learning master of public health (MPH) program. You are being asked to participate because you are (were) enrolled in the Executive MPH program at Emory University.

Study Procedures: If you agree to participate, you will be asked to participate in a 45-60 minute telephone interview about your experience in the Executive MPH program. The interview will be audio recorded to ensure that I accurately capture your responses. The audio recording will be transcribed by a professional transcription company. Your responses will never be linked to you by name or any other identifying information. Once the research project is complete, the audio recording will be destroyed.

Risks and discomforts: I do not anticipate that there are any risks from participating in this research.

Benefits: There are no direct benefits from participating in this research yet a better understanding of the student experience will allow institutions of higher education – including schools and programs of public health, to implement changes that may improve the experiences of future students.

Privacy/Confidentiality: Your privacy will be maintained throughout the research project. The interview transcript will be de-identified and your comments will never be linked to you by name

or to any information that could identify you. Both the audio files and transcripts will be maintained in a password protected environment.

Taking part is voluntary: Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to withdraw from the study, the information that can be identified as yours will be kept as part of the study and may continue to be analyzed, unless you make a written request to remove, return, or destroy the information.

If you have questions: The main researchers conducting this study are Dr. Sheila Slaughter and Melissa (Moose) Alperin. Dr. Slaughter is the major professor for Melissa (Moose) Alperin at the University of Georgia. Melissa Alperin is a doctoral student at the University of Georgia and a faculty member at Emory University.

Please ask any questions you have now. If you have questions later, you may contact Dr. Slaughter at slaughtr@uga.edu or Melissa at malperi@emory.edu. If you have any questions or concerns regarding your rights as a research participant in this study, you may contact the Institutional Review Board at either university:

- University of Georgia Institutional Review Board (IRB) Chairperson (706.542.3199 or irb@uga.edu); or
- Emory University Institutional Review Board (IRB) (404.712.0720 or irb@emory.edu).

Research Subject's Consent to Participate in Research: By participating in the interview, you are agreeing to participate in the above described research project.