Improving College Health:

The Effects of Peer Influence on Perceptions and Behaviors of Greeks and Athletes

by

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ABSTRACT

This study took place at SUNY Buffalo State College in Buffalo, NY during the 2018-2019 academic year, and was conducted to examine the effect of the Health Ambassador (HA) program on reducing drinking, drug use, and other potential detrimental health behaviors among Greeks and athletes. Study participants included 147 participants derived from two groups of undergraduate students. Group 1 included 18 students who participated in the Health Ambassador program. Group 2 included 129 men and women who were recruited from three athletic teams and two campus sororities. Group 2 was further divided into intervention and control groups.

A five-week multi-phase health and leadership intervention, consisting of health and leadership trainings and workshops, was implemented over two semesters. Through a blended approach, which incorporated both in-person and online trainings, health ambassadors were educated in health and leadership content and developed prevention workshops to positively influence Greeks and athletes' perceptions and behaviors toward substance use. Following the trainings, the health ambassadors delivered these substance prevention workshops to members of the intervention group. Self-Efficacy Theory and the Theory of Planned Behavior served as the theoretical frameworks for this study in order to determine health ambassador opinions around serving as student leaders and assess Greek and athletic student beliefs over engaging in potentially unsafe health behaviors, including alcohol and substance abuse.

The study employed a convergent parallel mixed methods approach where both quantitative and qualitative data were collected concurrently, analyzed separately, and compared to determine if the results substantiated each other. Taken from surveys,

questionnaires, group interviews, observations, and field notes, this study shows that (1) past 30 day use of alcohol, binge drinking, and marijuana positively decreased following the health ambassador intervention, (2) intervention group participants became more effective at refusing drugs and alcohol and were more confident in making healthier choices, (3) health ambassadors overcame initial fears and biases toward working with Greeks and athletes, and achieved success presenting health material and functioning as student leaders, (4) the individual and collective efficacy of the health ambassadors positively increased. Additionally, study limitations, implications for research, implications for practice, and conclusions were discussed.

DEDICATION

This dissertation is dedicated to two groups of people that I value dearly. To my health ambassadors at SUNY Buffalo State College, who have taught me much more than I could have ever taught them. To my parents, Diane and Lonnie, whose unwavering love, encouragement, and support has allowed me to chase and achieve my dreams. Thank you for always believing in me. I am eternally grateful and love you both so much.

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obtaining and celebrating the student voice was the inspiration for my Health Ambassador program and our efforts to promote health and wellness across campus. I vividly remember all our discussions in your office about becoming a doctoral student and improving health on campus. It seemed almost impossible at the time. But as Nelson Mandel said, “It always seems impossible until it’s done”. Thank you for everything. You will always be my Dean of Students!

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Chapter 1

LEADERSHIP CONTEXT AND PURPOSE OF THE ACTION

Attending college has offered an environment conducive to new experiences and opportunities, personal development and expression, and the formation of enduring relationships. Nevertheless, the continual and persistent use of alcohol and other substances among college students presents serious health, safety and educational challenges. According to a recent survey on drug use and health, 60% percent of college students aged 18-22 consumed alcohol in the past month, while almost two thirds of these students consumed dangerous amounts of alcohol (five or more drinks for men, four or more for women) (SAMSHA, National Survey on Drug Use and Health, 2014). In addition, a third of college students reported marijuana use, while nearly a fifth reported the use of other illegal substances in the previous year (Johnston, O'Malley, Bachman, Schulenberg, & Miech (2016).

Alcohol and substance misuse and abuse is especially prevalent among college athletes and those who belong to a Greek organization. For instance, college athletes and Greeks report more hangovers (Leichliter, Meilman, Presley, & Cashin, 1998), sexual assaults (Hingson, Heeren, Winter, & Wechsler, 2005), academic challenges (NCHA Executive Summary, 2017), injuries (Hingson, Zha, & Weitzman, 2009), and potential legal consequences (Park, Sher, & Krull, 2008) than those students who are not athletes or members of a sorority or a fraternity. Specifically, increased substance use among college athletes may be attributed to substantial pressure to maintain athletic eligibility (Green, Uryasz, Petr, & Bray, 2001), and perform well on the field and in the classroom

(Lisha and Sussman, 2010). Greek involvement is also linked to higher levels of binge drinking and a culture conducive to potentially hazardous substance use (Jones, Oeltmann, Wilson, Brenner, & Hill, 2001). Students who join a sorority or fraternity are more likely to use substances as a result of a desire for belonging and peer acceptance (Borsari, Murphy, & Barnett, 2007). Further, members of Greek life frequently report higher rates of non-medically prescribed prescription drugs, including painkillers and stimulants, than other college students (Bell, Wechsler, & Johnston, 1997; McCabe, Knight, Teter, & Wechsler, 2005).

Higher usage rates of drugs and alcohol are frequently connected to negative outcomes. For instance, among college students, excessive drinking is estimated to contribute annually to approximately 1,800 deaths and nearly 600,000 injuries (Hingson, Zha, & Weitzman, 2009). Also, the economic costs can become quite expensive, with an annual estimated emergency room cost of nearly $500,000 per college campus of at least 40,000 students (Mundt & Zakletskaia, 2012). These challenges and financial burden regularly extend beyond the individual drinker or substance user. Each year, it is estimated that roughly 700,000 students are victims of physical violence and nearly 100,000 college women are sexually assaulted at events where alcohol is involved (Hingson, Heeren, Winter, & Wechsler 2005). There also are more incidents of property damage, vandalism, and neighborhood disruptions reported near colleges with higher binge drinking as compared to those with lower rates (Wechsler, Lee, Hall, Wechsler, & Lee 2002). The authors attributed this finding to the availability of alcohol outlets in the surrounding college neighborhoods. Likewise, students at “heavier drinking colleges” have higher risk of being victimized and reporting property damage from intoxicated

students than students at other colleges (Wechsler, Moeykens, Davenport, Castillo & Hansen, 1995). These key factors in college student use and associated problems often center on social access to alcohol and drugs and perceived norms.

College students have also struggled differentiating between reported and perceived use of alcohol and other substances. The Spring 2017 NCHA report, indicated alarming rates of student substance use during the past 30 days. For instance, respondents believed that 16% of males and 12% of females would report having never smoked cigarettes, however, 72% of males and 79% of females reported not smoking. With respect to alcohol use, respondents perceived that only 5% of males and 3% of females have abstained from alcohol. However, the percentage of abstainers was much higher, with 22% of males and 19% of females reporting never drinking in their lifetime.

Also, substantial differences were found in the frequency of alcohol use over the past 30 days. Respondents believed that 47% of males and 55% females used alcohol at least ten days in the past month, whereas only 16% of male and 13% of female respondents drank alcohol that frequently. Marijuana had the greatest discrepancy between reported and perceived use with students believing that 81% of males and 87% of females would report some lifetime use. Yet, actual use was considerably lower, with nearly 22% of males and 19% of females reporting any lifetime marijuana use (NCHA Executive Summary, 2017).

College student misperceptions regarding alcohol and substance use can be extremely dangerous and is associated with a myriad of individual and campus-community problems. These include suicide attempts (Stephenson, Pena-Shaff, & Quirk, 2006), injuries (Grace, 1997), property damage (Jones, Chryssanthakis, & Groom, 2014),

and driving under the influence (Hingson, Zha, Smyth, 2017). More importantly, college students are more likely to maintain the behavior patterns and beliefs that they acquire during their years on campus (Schulenberg, O'Malley, Bachman, Wadsworth, & Johnston, 1996).

Local Context

Regrettably, like many of the findings surrounding our national landscape, the associated burden from students using alcohol and other drugs is continually prevalent within the campus of SUNY Buffalo State College (BSC) in Buffalo NY, the setting of my dissertation research. Before describing the health practices of students, I will provide a brief background about the college.

SUNY Buffalo State has served as a comprehensive college of the State University of New York system. Established in 1871 and joining SUNY in 1948, it was the largest of the comprehensive colleges and was the only one entirely within a city, with a current 2018-2019 enrollment of 9,118 students. However, according to a report from the New York State Department of Education, Buffalo State enrollment is expected to decline as the number of high school graduates in New York State is predicted to be much lower. In fact, the department of education is estimating a 16.5 percent decrease in students from the colleges' highest enrollment year in 2008-2009 through the upcoming 2019-2020 academic year (Gachette, 2017).

During 2016-2017, Buffalo State reported 55% of students received some type of need-based scholarship or grant (Gachette, 2017). Buffalo State's ability to positively affect educational trajectories has been recognized, including a rank of 26th in the 2016 Washington Monthly rankings of National Universities offering graduate degrees. In

more conventional rankings, however, the college's reputation has been unfavorably affected by low SAT/ACT and high school grade point averages among its students. This Washington Monthly ranking has accounted for Buffalo State's affordable cost, graduation rank and research, community service efforts, and ability to affect the social mobility of it graduates. However, this ranking reported only 47% of Buffalo State's undergraduate students were graduating within six years (Glastris, 2016).

Like many SUNY schools, Buffalo State implements an Educational Opportunity Program (EOP), which provides academic, financial, and advising support for low-income students who show potential to succeed in college. Buffalo State also offers supports through the Compass Program, which was designed to assist and prepare students who did not meet college admission requirements but have shown they are capable of becoming college students. Additionally, Buffalo State hosts an Upward Bound program, which provides continual academic, cultural, social, and residential support to income-eligible and/or first-generation students. Further, Buffalo State is the higher education partner of the Middle Early College High School in Buffalo, which offers underserved students the opportunity to earn over fifty college credits as part of a four-year educational initiative (Gachette, 2018).

Like much of the national landscape, substance use has been both a perceived and actual problem at Buffalo State. In 2015, the Center for Health and Social Research, in partnership with Prevention Focus, Inc., conducted a survey of 18 to 25-year-old college students. Responses from 202 students provided a snapshot for the college population and its substance use patterns. Results showed students perceived that 92.1% of Buffalo State students drank alcohol, and that 70.1 % of students drank at least once a week. In reality,

30-day use numbers indicated 68.4% of the population actually drank alcohol at least once a week, and 43.5% of students reported drinking five or more times per week (Wende, 2015).

Similarly, prescription drug misuse and marijuana use were also a perceived and actual problem. Student respondents perceived that 21.8% of their classmates misuse prescription drugs. However, actual reported use was much lower with 3.1% of students reporting 30-day use of prescription pain relievers, 4.1% reporting use of prescription stimulants, and 3.1% using prescription tranquilizers. Regarding Marijuana, 77.1% believed that their friends are using marijuana regularly, while 24.5% of students reported regular use (Wende 2015).

Further, results from two 2016 surveys conducted by the Dean of Students highlight typical use/consequence issues among students and associated challenges with student behavior on campus. Results from the 2016 Campus Haven Survey (n=374) found that 74.8% drink weekly, 39.4% report getting drunk less than once a month, 30.2% report getting drunk at least once or twice a month, 21.9% report marijuana use, and 5.2% misuse prescription drugs (Kenyon, 2016). Additionally, according to results from our 2016 online college alcohol assessment, participating students reported hangovers and blackouts as the most frequent drinking consequences (Kenyon, 2016).

Additionally, crime, drug use such as underage drinking, heroin, prescription drugs, etc., physical inactivity, and availability of unhealthy food, have become problematic on our campus, as well as fostering a prevailing culture that supports these problems. For example, in terms of reported consequences, from Buffalo State College's crime statistics, in 2015 there were 115 on campus referrals for liquor law violations, as

well as one off campus violation. In addition, there were 250 drug law violations, which we know from key informants were most frequently cited for tobacco and marijuana; 234 of these were on campus and 16 were off campus (Kenyon, 2016).

In response to these challenges, the college has sought to adjust its health prevention approach to foster stronger recruitment and retention. In this new conceptualization, substance use prevention has been viewed as a means of supporting student retention. As a result, several campus initiatives have been developed and integrated into our health prevention efforts. For instance, Buffalo State's Dean of Students Office has begun to address enforcement standards within their office to sanction students for underage drinking and antisocial behavior around alcohol. Amended campus-wide substance abuse strategies include policies in the Campus Code of Conduct which enforces N.Y. State law regarding the use of alcohol by those under 21 years.

The college has started to expand enforcement of its Alcoholic Beverages Policy which restricts use on campus to residence hall students who are 21 or older while in their living area. Further, for college events, a licensed and insured vendor is now required for major student events provided that the United Students' Government forward a request to the Dean of Students to review the vender qualifications and planned use of alcohol. Food and non-alcoholic offerings must also be provided at any approved events. The policy also now includes a provision to reserve the right to notify parents or guardians of students under the legal drinking age who have violated campus alcohol and other drug prevention policies. The Residence Life Office has recently amended its housing policy which restricts possession (including empty alcoholic beverage containers) and use in residence halls. Enforcement is by Resident Assistants and other residential life staff,

with support from University Police. The Residence Life Office has a separate judicial system to deal with residence hall violations. Student sanctions by the Residence Life Office are generally congruent with Code of Conduct sanctions administered by the Dean of Students. Finally, the Health Promotion (HP) program, part of the Weigel Wellness Center, employs a full-time health educator who delivers health (including Alcohol and other drug (AOD) education) programming, offers peer education, promotes health topic events on campus, and supervises sanctioned students that must perform mandated campus/community service.

However, despite these efforts, SUNY Buffalo State students are still using and abusing alcohol, marijuana, and prescription drugs and much work needs to be done. For instance, during the fall 2017, the Research Institute on Addictions (RIA), in partnership with SUNY Buffalo State, administered a college health survey to 351 undergraduate students. Of the total population, 260 (74%) identified as female, while 91 (26%) reported being male. Regarding alcohol use over the past thirty days, 26% of participants reported drinking on evenings when they had planned not to do so. Further, an additional 10% of participants reported not intending to use drugs in combination with alcohol during the past thirty days. Also, high risk drinking practices were especially prevalent among participants, with 35% reporting binge drinking over the past thirty days, and an alarming 16% of participants binge drinking on as few as 5 and as many as 30 days. Furthermore, 12% of respondents reported consuming 8-10 drinks on occasion during the past month. Regarding central nervous system stimulant use during the past 30 days, 13% of participants reported using an electronic vapor product with nicotine extracts, while 10% reported smoking part or all of a cigarette. Energy drink consumption among

participants was also problematic, with 25% reporting drinking an energy drink or energy shot during the past thirty days. In addition, illicit drug use was prevalent with over one quarter (26%) of participants reporting smoking marijuana during the past month. Of those marijuana users, 14% used at least 13 and as many as 30 days (Leonard, 2017).

Identifying a Need in Practice

Over the past twelve years, I have been employed in several capacities throughout SUNY Buffalo State. In August 2007, I was hired as an undergraduate lecturer and Health Educator and Research Analyst at SUNY Buffalo State College (BSC). In July 2015, to assist in our campus prevention efforts, I took on a broader role as the Senior Coordinator for Health Programs for the Institute for Community Health Promotion (ICHP). In that position, I have come to recognize the adverse role of poor health decisions with regard to students' college performance and experience.

During this time, I have focused on delivering projects that improve college and community health through prevention programs aimed at changing individual behaviors and college and community-level factors. In this position, my time has been divided between academics and furthering health promotion on campus and in the campus-related communities. Through the academic lens, I provide oversight and supervision for an evidence-based undergraduate Health Promotion Sciences (HPS) certificate program in the Health, Nutrition, and Dietetics (HND) department. I also teach several upper level HND courses per year focusing on health promotion planning, program implementation, and community engagement. Finally, I continue to participate in the development and implementation of external grant/contract applications related to health promotion.

On campus and in our surrounding communities, I have been responsible for providing support and direction for health-related area coalitions and grants. I serve as Program Director for an Office of National Drug Control Policy Drug Free Community Support Program. This program is aimed at reducing underage drinking and prescription drug abuse in youth living on the West Side of Buffalo. Additionally, I direct and manage the expansion, implementation, and evaluation of health promotion interventions for the college campus community (e.g., student groups, individual students, faculty members, and administration).

For example, I am the Primary Investigator of a New York State Office of Alcoholism and Substance Abuse Services (OASAS) College Prevention Grant. This grant aims to prevent and reduce underage alcohol consumption and other drug (AOD) use including prescription drug misuse by college students. I continue to work with various college health committees and serve as a faculty advisor to two undergraduate sororities and as a faculty consultant to Intercollegiate Athletics. Moreover, as I have conducted my duties, I have recognized that developing and encouraging discipline-appropriate high impact learning practices such as internships, student research, service learning, and field experiences in health promotion would benefit students.

Beginning in November 2016, in conjunction with our campus Dean of Students, I completed an extensive review of our existing campus health programs. To my dismay, I found that much of the campus health programming was provided by students who were not enrolled in any of our three Health, Nutrition, and Dietetics (HND) academic programs. As previously stated, the college addresses peer education out of the Weigel Wellness center and employs a full-time educator. However, this educator does not have

a background in health and accepts students with little to no health experience. As a result, I founded the Health Ambassador (HA) Program to add to our college substance abuse prevention efforts. The Health Ambassador (HA) Program was developed in January 2016 as a means of providing future health professionals with the opportunity to function as educators and liaisons between the Health, Nutrition, and Dietetics department and Buffalo State students and student affairs entities.

Since that time, I have trained fifty-six student ambassadors to design and present workshops, plan campus events, and deliver wellness and substance use prevention programming. Each ambassador has an academic major in one of the Health, Nutrition, and Dietetics (HND) degree disciplines, completes a year (two semester) commitment, and specializes in various health and nutrition disciplines (e.g. exercise physiology, clinical dietetics, health promotion, etc.). Initial ambassador efforts have proved to be successful. Through collaboration, engagement, and presentation, we have been able to provide health and wellness programming and training to over 1600 students and community members.

More recently, I completed a pilot research project during the fall 2017. The cycle consisted of two participant groups, two sororities (quantitative) and three health ambassadors (qualitative). Both sororities completed a pre-post college student survey, with one sorority (n=17) serving as the intervention group, and the other sorority (n=19) participating as the control group. The health ambassadors delivered three health and wellness workshops to the intervention group.

Regarding the ambassador intervention, a significant decrease from pre-to-post was reported in 30-day marijuana use among the intervention group ($t(17) = 1.06$ with a

significant value of $p = 0.02$), with a decline in the frequency of marijuana use (pre - 53%; post - 18%), while the control group reported an increase in use. This suggests the intervention may have influenced how participants perceive marijuana and the associated consequences around its use. Also, overall 30-day drinking frequency decreased, with 37% of participants drinking at least 6 and as many as 19 days on the pre-test, as opposed to 19% in the post-test. This suggests that the intervention introduced a higher level of caution regarding their drinking.

The qualitative approach centered on three health ambassador interviews. These interviews provided an intimate account of their participation, experiences, and contributions to the health ambassador program. Throughout the student narratives, an overall theme emerged. Health ambassadors described changes in participant growth and improved self-efficacy. Each participant initially identified difficulties around feeling confident and possessing limited leadership experience and content specialization. Following the intervention, participants noted improvements including enhanced knowledge and shared collaboration around a common purpose. The most significant findings were (1) the desire of the ambassadors to integrate their own talents into the larger group and (2) a unified believed that success was contingent on collective learning and continued collaboration. For instance, two prior ambassadors stated:

> "A big bonus of this health ambassador program is developing subject matter. Each ambassador is able to contribute to the group and teach what they are passionate about."

"Being in a group allows you to have each other's backs. The longer you work together, you just know what other people do, and what they can bring to the table."

Although successes were identified, I believe I had only scratched the surface. These numbers did not provide a representative sample into the extent of college alcohol and substance abuse at SUNY Buffalo State or the influence of peer leadership in promoting health. As such, I expanded on these initial efforts and implemented a much broader and more comprehensive approach to college health promotion.

Purpose of the Study

The purpose of this study was to conduct action research to investigate and improve student leadership in promoting health on a college campus, especially as related to substance abuse. More specifically, the purpose was to better understand the influence of the Health Ambassador program at SUNY Buffalo State College on other students' perceptions, beliefs, and attitudes toward adopting and maintaining a healthy lifestyle. Through a mixed method design, this study intended to reduce drinking, drug use, and other potential detrimental health behaviors among BSC Greeks and athletes.

Research Questions

This study was conducted to answer three questions that stem from my problem of practice and purpose statements. Generally, the questions pertained to the effectiveness of the HA program and its effects on various outcomes. The research questions that guided the conduct of the study were:

RQ 1: How and to what extent does implementation of the Health Ambassador (HA) program affect individual student ambassador self-efficacy?

RQ 2: How and to what extent does implementation of the Health Ambassador (HA) intervention affect the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use?

RQ 3: How does the health ambassador program influence the collective efficacy of the health ambassadors?

Chapter 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

Chapter 1 provided an overview of the content and rationale for this study. I discussed the local context and provided relevant local and national evidence to warrant further investigation into my problem of practice. Further, I outlined a Health Ambassador Program designed to influence students' perceptions, beliefs, and attitudes toward adopting and maintaining a healthy lifestyle. Chapter 2 is comprised of four sections. In the initial section, I will discuss current trends and perspectives associated with college student health behaviors. Throughout the second and third sections, I will describe two guiding theoretical perspectives with supporting literature and present their alignment to my study purpose. In the fourth section, I will examine the role of faculty mentoring and peer leadership and their influences on health behavior among college students. Finally, conclusions and implications of the theoretical perspectives and supporting research will be discussed.

Student Health on College Campuses–Trends and Perspectives

As students transition from high school to college, noteworthy changes in behavior begin to occur. College students are more likely to be unintentionally injured, involved in an accident, a crime, or a violent affair (Corrao, Bagnardi, Zambon, & La Vecchia, 2004). They also place themselves at higher risk to develop heart disease and certain types of cancer, as well as acquire Sexually Transmitted Diseases (STDs) (Corrao et al., 2004). In all, 68.5% of college students are sexually active (American College Health Association-National College Health Assessment Executive Summary, 2016). Moreover, numerous studies have reported a link between sexual activity and various

forms of substance use like alcohol, stimulants, opiates, etc. (Benotsch, Snipes, Martin, and Bull, 2013).

Many college students exhibit risky dietary and exercise behaviors that led to significant chronic health problems including becoming overweight or obese (Racette, Deusinger, Strube, Highstein, & Deusinger, 2008). Weight gain among college students has continued to present a substantial risk, with more than one third of respondents being overweight or obese (American College Health Association-National College Health Assessment Executive Summary, 2016). As college students progress throughout their college experience, they are more likely to become less physically active and engaged in an increasingly sedentary lifestyle (Huang, Harris, Lee, Nazir, Born, & Kaur, 2003; Racette, et al., 2008).

Additionally, the challenges in offering quality mental health services and responding to student mental health concerns continues to be a growing priority in higher education (Soet & Sevig, 2006). When asked to provide a rationale for decreased academic performance, dropping a course, or postponing research or project work, college students list stress, depression, anxiety, and sleep problems as their top contributors. During the past year, half of all respondents reported feeling hopeless, and almost a third were diagnosed or treated by a mental health professional (American College Health Association-National College Health Assessment Executive Summary, 2016).

Although many of these behaviors have been prevalent and often co-occurring on college campuses, this research will examine alcohol use, marijuana use, and non-medical use of prescription drugs. These major behavioral categories were chosen

because they are often detrimental to student health, show great change throughout the college years, and as described in chapter 1, are prevalent on the college campus where the study will take place.

As described in chapter 1, past year and past 30-day college drinking is prevalent on campuses and often negatively influences academic performance. For instance, roughly 76% of college students reported drinking alcoholic beverages in the past year and almost 63% of those respondents have consumed alcohol in the past 30 days. Of those past 30-day drinkers, almost 40% were intoxicated during the drinking event. (Johnston, O'Malley, Bachman, Schulenberg, & Miech, 2014). An additional contributor to excessive college drinking is the combination of alcohol and energy drinks. Unfortunately, energy drinks in combination with alcohol can lead to several negative consequences including decreased visual and auditory perception and fine motor control. Despite these negative physiological and psychological effects of alcohol, college students often believe they are more skilled at executing fine motor behaviors, (e.g., driving, walking, etc.), than they are when they have not consumed these beverages (Brache & Stockwell, 2011). Further, those students who regularly engaged in heavy drinking are more likely to have lower grades and recurrent academic problems (e.g. class absences, failing an exam) than students who limit or do not participate in heavy episodic drinking (Perkins, 2002).

Marijuana use has also been linked to poor college student outcomes. A recent study examining marijuana use patterns among 15 to 25-year-old students reported that occasional users were more likely to suspend enrollment or withdraw from college, whereas heavy users were unlikely to register in the first place (Homel, Thompson, &

Leadbeater, 2014). Marijuana use in college is also related to academic achievement, including lower grade point averages and poor study habits (Bell, Wechsler, & Johnston, 1997), and lower rates of graduation (Arria, Garnier-Dykstra, Caldeira, Vincent, Winick, & O'Grady, 2013). Additionally, students who smoke cigarettes and engage in binge drinking and other illicit drug use are more likely to use marijuana in college (Mohler-Keo, Lee, & Wechsler, 2003).

The non-medical use of prescription medications (NMPDU) has become the second most prevalent drug concern in the United States today (Johnston, O'Malley, Bachman, & Schulenberg, 2012). Non-medical prescription use is associated with the use of any scheduled medication without having a prescription. On college campuses, NMPDU's have proven to be especially detrimental among males, Caucasian students, members of Greek organizations, and those who have been prescribed many prescription medications for medical purposes (Johnston et al., 2012). Also, 18 to 22-year-old college students, are using prescription stimulants non-medically at a much higher rate than those who were not enrolled in college (Johnston et al., 2012). Over the past year, 10% of college students reported NMPDU use (NCHA Executive Summary, 2017).) The overall percent of student use of NMPDU at SUNY Buffalo State (10.3% as reported in Chapter 1) is almost identical to the national average of 10%. Additionally, at SUNY Buffalo State, the perception of risk of harm is low and the availability of these substances is high. For instance, in the 2017 college student survey, 22% of participants (14% of males and 8% of females) reported little or no risk associated with NMPDU (Leonard, 2017). Regarding availability of prescription drugs not prescribed to them, 77.1% reported that it was "very easy" or "somewhat easy" to obtain these drugs (Wende, 2015).

Many researchers have attributed the adoption of these behaviors to various mental health concerns including self-worth, depression, anxiety, and personality traits (Schall, Kemeny, & Maltzman, 1992). Wechsler, Lee, Kuo, & Lee (2000) suggested alcohol behavior and binge drinking rates were negatively related to college variables including campus size; residency status, e.g., commuter vs. dormitory living; and membership in specific college groups, e.g., Greek life members (Wechsler et al., 2000). Additional studies have focused on examining beliefs and perceptions related to alcohol and other drug use among their peers. Barnett, Far, Mauss, and Miller (1996) found that those students who acted in accordance with the beliefs of their peers, were more likely to overemphasize the occurrence of problem behaviors on campus. They claimed the likelihood of influencing student behavior is increasing, when targeted belief or behavior change interventions are implemented (Barnett et al., 1996).

Theoretical Perspectives

Several theories and models have surfaced over the years to investigate why some college students choose to participate in potentially harmful behaviors and others do not. Two theoretical perspectives, which center on behavioral improvement, will provide the principal frameworks that guide this research. In the next section, the Theory of Planned Behavior (TPB) formulated by Icek Ajzen (1986, 1991) and Albert Bandura's Self-Efficacy Theory (1986) will be described. Each theory has been selected and reviewed because it is especially pertinent to this research study. For instance, the TPB was selected as its concepts help to foster behavioral intention. Specifically, the TPB was incorporated to elicit insights and perspectives pertaining to campus and student norms related to alcohol, marijuana, and non-medical use of prescription drugs.

Bandura's Self-Efficacy Theory was selected to determine the change in self-efficacy of the health ambassadors, athletes and sorority members. The theory was used to address student changes in the four influences individuals use to determine their self-efficacy. These will be explained in detail throughout the chapter and include mastery experiences, vicarious experiences, verbal persuasion, and physiological states. Collectively, both theories help me understand two things specifically related to my research. These include (1) the actions of students regarding their use, beliefs, and perceptions of alcohol, marijuana, and prescription drugs, and (2) the actions of the health ambassadors in leading their peers to improve their health behaviors. For each theoretical perspective, an individual description will be provided, followed by a review of relevant related research literature.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB; Ajzen 1986, 1991) is the expansion of the Theory of Reasoned Action (TRA; Ajzen & Fishbein 1975, 1980). In general, the TPB focuses on the idea that beliefs influence attitudes, norms, and control over a behavior. Subsequently, these attitudes, norms, and behavioral control influence individual intentions to perform a behavior, and ultimately, their ability to engage in an actual behavior. According to Ajzen and Madden (1986), "perceived behavioral control can influence behavior indirectly, via intentions, and it can also be used to predict behavior directly because it may be considered a partial substitute for a measure of actual control" (p. 459). Further, Ajzen's addition and insertion of perceived control (Ajzen, 1991) can be attributed to the belief that behavior change is determined by individual intention and one's perceived control over performing a specific behavior. Typically, stronger

intentions to change a behavior have been found to be associated with a greater likelihood of carrying out the behavior.

The Theory of Planned Behavior served as an essential structure for this study because its constructs have been shown to shape the development of behavioral intention in reducing substance use while providing necessary strategies to adopt and maintain a healthier lifestyle. Further, behavioral intention is aligned to my second research question, which aimed to understand the Health Ambassador program impact on students' attitudes towards living a healthy lifestyle. Figure 1 displays the inter-relations among various TPB constructs that influence intention to perform a behavior. For instance, Behavioral beliefs form the resulting attitude from investigating potential opportunities and consequences of completing a behavior. Normative Beliefs express 'expected' systems of behavior in groups of people and larger societies. These normative beliefs lead to the formation of the Subjective Norm, which can be defined as the perceived social pressure associated with complete a behavior. Finally, Control Beliefs shape individual perception and belief regarding behavioral performance.

Each construct of Ajzen's Theory of Planned Behavior will be described in detail in the next several sections. The initial section will describe the Behavioral Beliefs, which concentrate on how beliefs initiate an individual's Attitude toward the Behavior. The subsequent section will present information on Normative Beliefs and their role in the creation of Subjective Norms. Control Beliefs and their influence on Perceived Behavioral Control will be described in the third section. The fourth section will discuss the importance of combining theory constructs in developing intention and influencing behavior.

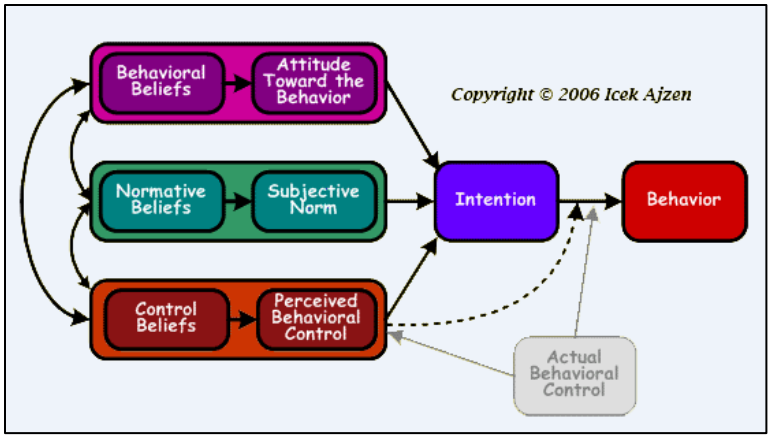

Figure 1. Theory of Planned Behavior (used by permission)

Behavioral beliefs and attitude toward the behavior. According to the TPB model, an individual's behavior beliefs are interwoven with their attitudes. Attitudes can be described as the outcome of one's internal evaluation of the opportunities and consequences of completing a behavior. These potential opportunities and consequences represent the behavioral beliefs from which the attitude was derived. Research results have shown that measuring individuals' attitudes contribute to predictive power of performing a behavior (Ajzen & Sheikh, 2013; Gardner & Abraham, 2010). However, it is important to mention that the interplay between attitude and behavior often provide varying outcomes.

For instance, the stronger the belief in performing an activity, the greater the likelihood of someone demonstrating a positive attitude and completing a behavior. Alternatively, those who harbor negative perceptions toward performing a behavior were more likely to offer a negative attitude. Using college students as an example, those students who associate alcohol use with a sense of belonging and fitting in may be more likely to offer a positive attitude toward performing the behavior. Conversely, if college

students perceive alcohol to be affiliated with poor academic performance and negative grades, they may well exhibit a negative attitude toward consuming alcohol.

To better appreciate the formation of an attitude toward a behavior, it may be important to consider these concepts in relation to having a child. In 2005, a study was conducted with nearly 900 Caucasian married couples who did not have children, to determine the beliefs behind becoming pregnant. Langdridge, Sheeran, and Connolly (2005) reported a combination of 35 reasons in support of and in opposition to having a child. Of the 35 reasons for having a child, eleven were distinctly different between participants. For instance, the reasons in support of having a child ranged from "it would be fulfilling, to "it's a biological drive", whereas the five reasons against varied between "there are more important things to do in life", to "concern with overpopulation" (Ajzen & Klobas, 2013 p. 210). This is important as each reason signifies a unique resulting behavioral belief providing evidence that may or may not have influenced individuals' attitude and intent regarding having children.

Normative beliefs and subjective norm. Fishbein & Ajzen (2010) defined normative beliefs as "perceived social pressure to perform, or not to perform a given behavior" (p. 130). Normative beliefs concentrate on assessing the degree to which an individual believes they are supported or dissuaded when determining whether to perform a behavior. Often, these individuals are representative of the situated environment and content area being examined (Ajzen, 1991). For instance, college students may belong to a student organization that promotes high risk drinking and encourages excessive drinking as a membership condition. Similarly, a college student who has a parent struggling with an opiate/prescription drug addiction may have been discouraged from

drug use and expected to demonstrate better self-restraint than their parent. Further, an individual's motivation can also be influenced by their desire to agree with or refute specific behavioral expectations. Subjective norms are fostered out of acceptance and tolerance to the beliefs of others. Conversely, these norms may also be adopted out of the rejection of shared beliefs and values.

Subjective norms and the likelihood of performing a behavior have been shown to be heavily influenced by the beliefs of others. Positive subjective norms, for example, are often fostered through a belief that others' opinions are accurate and relevant to their personal growth. In these instances, motivation to perform a behavior as well as a desire to not disappoint others is greatly increased. Equally, those who perceive disapproving evaluations from others are less motivated to participate or change a behavior, and thus, possess a negative subjective norm. Additionally, individuals who exhibited low motivation, were not influenced by positive or negative feedback, and displayed more of a neutral subjective norm.

On college campuses, measuring the subjective norms associated with college student drinking has become increasingly important (Perkins, 2002). Through an extensive review of theoretical and experiential studies, Perkins (2002) examined two college subjective norms, (1) the function of social norms in alcohol use among college students, (2) and the effectiveness of campus prevention in addressing misuse. Study findings revealed that peer norms were the greatest influence on student drinking and behavior. Also, the heaviest drinkers were those students who lived on campus or were more involved in college clubs and organizations. Finally, the gulf between student perception and reality among peer norms related to drinking was consistent throughout

the literature review. This confusion around drinking is associated with increased drinking and participation in other potentially harmful behaviors (Perkins, 2002).

Control beliefs and perceived behavioral control. In the TPB, control beliefs are concerned with identifying the supposed existence of desirable or undesirable factors to an individual completing a task or behavior. In their 1986 article, Ajzen and Madden stated, "On one extreme are behaviors that encounter few if any problems of control, while on the other extreme are behaviors or behavioral events over which we have relatively little control" (Ajzen & Madden, p. 456). The strength of each belief determines the perceived leverage one had over a behavior, or the Perceived Behavioral Control. As mentioned previously, the TPB was developed as an extension to the Theory of Reasoned Action. This extension was due in part to Ajzen's belief that executing a behavior was a result of individual purpose and capability. To directly affect behavior, individuals are required to have intent to perform the behavior and a belief that recognized the level of behavioral change was under their control (Ajzen, 1991). This notion is especially relevant to changing situational and environmental factors that limit an individuals' control over performing a behavior.

For instance, the difficulties associated with individuals' ability to control or modify a behavior can be explained using an example of a college student who lives on campus and intends to stop drinking. In reviewing this situation, it becomes evident that this situation is complex. While certain factors are under a student's control, including choosing to only associate with other non-drinkers, electing to reside in an alcohol prohibited dormitory, no longer attending campus parties or frequenting bars, participating in healthy alternatives (e.g. exercise), etc., many were not. This college

student would likely be exposed to a variety of personal, environmental, and social challenges. These include, but are not limited to, factors including past experiences and beliefs about alcohol, access and availability of alcohol, level of peer support including their attitudes and behaviors, and normative campus beliefs associated with drinking. Despite these potential pitfalls, the likelihood that students would quit drinking may depend to a large extent on the individuals' level of control. This importance of individual control is highlighted further in a 1992 article by Madden, Ellen, and Ajzen. The authors found when an individual's belief over behavior was strong, the primary predictor of behavior change centered on purpose, because the individual possesses greater tangible influence over performing a behavior (Madden, Ellen, & Ajzen, 1992).

Behavioral intention. The TPB postulates individuals' behavioral intent is the necessary precursor to executing the given behavior and is generated through the fusion of three constructs, Behavioral Beliefs, Normative Beliefs, and Control Beliefs. Intention is determined by assessing each construct for relevance to the targeted population and behavior. Behavioral intent is the greatest predictor of behavior and provides perspective to the motivational influences that prompt behavior (Ajzen, 1991). Moreover, behavioral intent exposes the varying levels of motivation and effort which individuals are willing to exert in their efforts to complete a behavior.

A recent article regarding human papillomavirus vaccinations (HPV) among college students demonstrates the function of intent on performing behavior. Richards (2016) designed an experimental study to predict HPV vaccine intentions in almost 300 undergraduate students. The intervention was comprised of participants viewing several health messages, with varying levels of susceptibility and harshness. The study aim was

to determine which messages helped to increase one's intent to be vaccinated. Not surprisingly, the greatest influences on intent were injunctive norms and pressures, peer approval or disapproval toward becoming vaccinated, and how information on HPV was obtained. Information gathering was also a significant determinant among those participants who were undecided about getting vaccinated (Richards, 2016).

Theory of planned behavior and health studies. In addition to the Perkins (2002) study on college drinking, the Langdridge, et al., (2005) work regarding having children, and the Richards (2016) work on HPV vaccinations, the TPB has been used to forecast and describe a multitude of health intentions and behaviors. From the perspective of universal disease prevention and health prevention, TPB research has successfully predicted supportive interactions among family members and utilization of the health care system (Albarracin, Fishbein, & Goldestein de Muchinik, 1997), sexually transmitted disease prevention (Albarracin, Johnson, Fishbein, Muellerleile, 2001), and nutrition and physical activity (Ickes & Sharma, 2011).

Among college students, TPB has been found to be highly effective in predicting behavior regarding attitudes and illicit use of prescription stimulants and polysubstance use. In their study of almost 350 participating college students, Judson & Langdon (2009) found that students with medical prescriptions are more likely to notify authorities regarding illicit use. Those students who used prescription drugs illegally perceived their use as socially appropriate, were less apprehensive about consequences or side effects, and had a greater justification to use (Judson & Langdon, 2009). These findings highlight the interplay between campus norms, individual and peer perceptions, and their relationship in determining individuals' behavior.

Additionally, Haardorfer, Berg, Lewis Payne, Pillai, McDonald, and Windle (2016) studied poly-tobacco, alcohol, and marijuana use patterns among 3,418 college students aged 18-25, representing seven college campuses. Haardorfer et al., (2016) examined various individual, socio-contextual, and socioeconomic (age, race, gender, academic year, etc.) aspects and their relation to substance use. Individual factors included measures addressing perception of harm, depression, and addiction potential, while socio-contextual factors assessed peer and parental use. The authors found those students who reported using marijuana and multiple forms of tobacco such as cigarettes, cigars, and cigarillos tended to have parents who smoked. Additionally, peer and parental influences were found among those students who reported only alcohol use. These participants were more inclined to have parents who drank and friends who used marijuana. They also did not report having friends who used various forms of tobacco. Regarding social acceptability, those who only drank reported lower levels of acceptability for tobacco and marijuana use.

Moreover, the TPB was used to examine condom use practice among college students aged 19-43. Asare (2015) administered a 30-item survey regarding condom behavior to 218 participating college students. The survey questions encompassed each of the TPB three constructs—Attitude Beliefs, Behavior Beliefs, and Control Beliefs. Results showed behavioral intention, normative beliefs, and subjective norms were found to be important predictors of practicing condom use. However, the study findings were fairly interesting regarding perceived behavior control over using a condom during sexual intercourse. Less than 60% of all participants reported high levels of confidence with using condoms, and over 40% of participants reported they encountered significant

difficulties (Asare, 2015). It was important to note that alcohol has been repeatedly connected to dangerous college student sexual behaviors including limited use of contraception (Cooper, 2002).

Relation to this study. The TPB was utilized throughout this research to help assess RQ1 and RQ3, which focused on developing an understanding of individual and collective efficacy of the health ambassadors. The TPB was necessary to determine the impact of the health ambassador training curriculum as well as elicit health ambassador beliefs regarding individual and group ambassador attitudes, norms, and levels of perceived control in serving as a peer leader. Using a pre-post design, a seventeen question TPB questionnaire was administered to the health ambassadors. The seventeen questions were divided into four constructs titled "Attitude, Subjective Norm, Perceived Behavioral Control, and Intention". Each of the four constructs attempts to address RQ1 and RQ3. It is important to note that all constructs included questions that elicit insights and perspectives regarding alcohol, marijuana, and non-medical use of prescription drugs. The TPB questionnaire was administered to the health ambassadors during the first week of the health ambassador trainings, and again at the end of the health ambassador workshops. The two assessments were evaluated to examine change in mean scores (see data analysis section).

Self-Efficacy Theory

Self-Efficacy Theory was originally developed by Albert Bandura as a part of Social Learning Theory (Ashford & LeCroy, 2010), which evolved into the Social Cognitive Theory (SCT; Levin, Culkin, & Perrotto, 2001). SCT specified that individuals possessed the ability to demonstrate self-restraint, accomplish goals, employ predictive

judgment, and consider how they thought and acted (Bandura, 1997). Bandura (1977) based Self-Efficacy Theory (SET) on the belief "that psychological procedures, whatever their form, serve as means of creating and strengthening expectations of personal efficacy" (p. 193). More specifically, self-efficacy was introduced to measure individuals' beliefs in their ability to perform the necessary steps required to complete a targeted behavior (Bandura, 1977, 1986, 1997). Self-Efficacy theory addressed research questions 1 and 3. Each question pertained to various aspects of the health ambassador. RQ1 determined the influence that the health ambassador program has on their individual efficacy. RQ3 centered on examining how the collective efficacy of the health ambassador group affects each individual ambassador when they are presenting health and leadership material to Greeks and athletes.

This idea differentiated self-efficacy from outcome expectations. Outcome expectations were related to individuals' appraisal of potential effects of participation in a behavior. Conversely, self-efficacy expectations referred to the level of certainty that individuals would produce the necessary outcomes by completing the behavior. Individuals who believed that engaging in specific steps resulted in a particular outcome were more likely to achieve their goal. This was due to the limited impact that outside influences (e.g. peers and information) had on altering progress. An individual's perseverance toward goal attainment has resulted in self-efficacy being identified as a formidable predictor of behavioral performance (Bandura, 1994). Bandura (1977, 1986, 1997) proposed four factors that individuals use to determine their self-efficacy, or perceived competency in completing particular activities. Bandura referred to these

influential sources of information as mastery experiences, vicarious experiences, verbal persuasion, and physiological states.

Mastery experiences. The most effective way to enhance individuals' self-efficacy was through mastery experiences, because there is a greater likelihood people will attempt a new endeavor if they already accomplished a comparable feat in the past (Bandura, 1994, 1997). Mastery experiences also offered the best indication of individual capacity and capability to be successful (Bandura 1997). Williams and Williams (2010) highlighted the connection between self-efficacy and how individuals approach tasks. They wrote, "individuals with high levels of self-efficacy approach difficult tasks as challenges to master rather than as threats to be avoided" (Williams & Williams, p. 455). Further, individual expectancies of attaining task mastery were increased with prior successful outcomes and experiences. The influence of expectancies on an individual's self-efficacy can be illustrated in the example of a new teacher who was hired to instruct college health. With each semester lesson, the teacher's efficacy beliefs are either increased or decreased based on how they perceive the resulting lesson. If the lesson was viewed as successful, then self-efficacy was heightened, resulting in an improved belief that teaching future lessons would also be successful. Conversely, if the teacher perceived a lesson as unsuccessful, then self-efficacy may be diminished during future lessons and their ability to educate may become ineffective.

Vicarious experiences. The second factor that influenced perceived self-efficacy is vicarious experiences. After mastery experiences, vicarious experiences have been found to provide the second greatest influence on self-efficacy (Ashford, Edmunds, & French, 2010). Vicarious experiences are predicated on the observations of others and

provide information collected from others' successes and failures. More specifically, the information gathered is from watching another person perform a targeted behavior. The person performing a behavior provides a model and a reference point of others' capabilities in relation to their own (Bandura, 1977). According to Bandura, vicarious experiences "modify efficacy beliefs through transmission of competencies and comparison with the attainment of others" (Bandura, 1997, p. 79).

An increase in individuals' self-efficacy often results from watching another person perform a behavior successfully. However, observing a behavior performed incorrectly can also decrease individuals' self-efficacy. The influence of observation on individuals' behavior can be better understood using an example of college students who attend a party where they observe their peers drinking alcohol. After observing several students participate in a drinking game, the students gravitate towards the socially accepted behavior and decide to participate. Almost immediately, as a result of watching others perform, they feel more confident in their abilities to perform the game correctly and continue to participate.

Verbal and social persuasion. Verbal and social persuasion allows individuals to perceive the possibility of successfully performing a behavior. Those individuals who are told they are capable of successfully completing or mastering a behavior are more likely to complete the task. However, individuals have a tendency to abandon a task when they are informed or conclude they do not possess the necessary ability to complete it (Bandura, 1994). Verbal persuasion includes many factors, including internal beliefs and others' opinions. Most importantly, for a behavior to be performed, an individual needs to

view the person who is persuading them to participate as honest and reliable (Bandura, 1977; van Dinther, Dochy, & Seger., 2011).

For instance, Fong and Krause (2014) conducted a study to examine the influence of the four sources of self-efficacy information in an undergraduate introductory college course comprised of 49 students, 13 "underachievers" and 36 "achievers." All students completed a questionnaire eliciting student beliefs related to confidence and self-concept. Student responses were compared between the two groups. Regarding verbal and social persuasion, Fong and Krause found underachievers reported significantly less incidences of verbal persuasion than those in the achiever group. This finding was interesting because the groups had similar self-efficacy scores, highlighting the relevance of positive social persuasion (Fong & Krause, 2014).

Somatic and emotional states. As individuals assess their capacities to execute a task or behavior, they have learned to depend on their somatic and emotional states (Bandura, 1997). Feelings of anxiety, stress, trust, happiness, or arousal were all included on a continuum of these physiological and emotional states. The level of emotional arousal and physiological state influences individual perceived self-efficacy and ability to manage difficult situations (Bandura, 1977). In fact, negative physiological states such as worry, fear, and stress are associated with an individual who presumes failure or has performed tasks unsuccessfully in the past. Additionally, as a situation becomes more fearful, individuals become negatively aroused, and their perceived ability to complete tasks decreases and failure may occur. Conversely, individuals who experience positive thoughts about their behavioral capacities are more likely to demonstrate confidence and successfully perform a behavior. The effect of emotional states on self-efficacy has been

demonstrated in the literature. In their article regarding academic self-efficacy in first-year college students, Chemers and Garcia (2001) found optimism and academic self-efficacy were correlated with college students' academic performance. The authors also found an association between optimism, academic performance, and individuals' outlook and self-management beliefs (Chemers & Garcia, 2001).

Self-efficacy and college health studies. The role of self-efficacy has been examined in many areas related to college health and wellness. College students who placed importance on their own health and believed they are capable of making lifestyle changes, (i.e., self-efficacy), are more likely to engage in positive health practices, including physical activity (Rodgers & Sullivan, 2001), dietary behavior (Frazier, Vacarro, Garcia, Fallahazad, Rathi, Shrestha, & Perez, 2015), and abstinence from alcohol (Christiansen, Vik, & Jarchow, 2002).

Foster, Yeung, and Neighbors (2014) examined the role of self-efficacy as a mediator between college student drinking identity and alcohol consumption. Nearly 1,100 undergraduate students completed an array of computer-based educational materials in the study. Results showed self-reported drinking identity (SRDI) was unfavorably associated with individuals' drink refusal self-efficacy (DRSE), and showed a positive connection to student drinking. Drink refusal self-efficacy was also reported to be negatively related to student drinking. Finally, male college participants were found to report greater amounts of drinking, a lower DRSE, and a larger SRDI. Javier, Abrams, Moore, and Belgrave (2016) examined the relations among condom use efficacy, condom negotiation, and assertive sexual communication in 214 African American college women who participated during two HIV prevention interventions. For the purpose of

their article, condom use efficacy was related to the amount of confidence an individual had in using a condom as prescribed. After each intervention, a participant post-test was collected, and a three-month follow-up was conducted with each participant. The post-test and follow-up data were analyzed and revealed several key findings. The researchers concluded that post-test condom efficacy fully mediated the connection between the outcome of the intervention and assertive sexual communication during follow-up. Condom self-efficacy was also key in mediating the outcome of the intervention and condom negotiation during follow-up.

Relation to this study. Self-Efficacy Theory and each of the four sources of information that individuals use to form their perceived competency in completing activities were explored throughout this research. All student ambassadors are required to work in the program for one academic year. At the onset of their commitment, they were assessed in their self-efficacy as a peer leader using a 10-item group interview (see methods section for interview data collection and analysis). This assessment included categories pertaining to efficacy over the following: health content, providing social support, becoming a peer leader, acting as a peer leader, promoting learning, influencing behavior change, cultivating a healthier campus, etc. For each category, questions addressing mastery experiences, vicarious experiences, verbal persuasion, and physiological states were offered. At the end of the health ambassador workshops, the same assessment was administered to each ambassador. The two assessments were evaluated to examine change in individual and collective efficacy.

Self-efficacy was also assessed in the experimental (Sorority 1 and Team 1) and control groups (Sorority 2, Team 2, and Team 3). Both groups were asked to complete a

twenty-nine-question college student survey prior to and following the health ambassador health and leadership workshops. Two of the survey questions assessed efficacy measures of alcohol, marijuana, and non-medical use of prescription drugs (NMPDU). For instance, one question inquired about a participant's confidence level in being able to make positive health decisions related to substance use, while the other asked about confidence associated with refusing alcohol, marijuana, and prescription drugs. The survey provided information on student change in alcohol, marijuana, and NMPDU efficacy that resulted from the ambassador training.

Self-Efficacy Theory and Theory of Planned Behavior were chosen for this study as they both are needed to measure an individual's belief around completing a behavior. It is important to note that each theory offers something the other does not. For instance, Self-Efficacy Theory was needed as it provides the opportunity to measure an individual's apprehension with completing the behavior itself. Bandura (1977) incorporated self-efficacy as a means of assessing how individuals manage their behavior when they are attempting to change it (Bandura, 1977). His focus on self-efficacy did not necessarily account for environmental, societal, or cultural factors that are associated with behavior change.

However, the Theory of Planned Behavior was developed to move beyond an individual's perceived free will and instead chose to also address environmental, societal, or cultural factors surrounding a behavior. Therefore, both theories were needed to best accurately (1) determine health ambassador beliefs around serving as a student leader and (2) assess college student beliefs associated with their perceived control over engaging in potentially harmful health behaviors, including alcohol and substance abuse. Taken

together, both theories assessed beliefs regarding individual behaviors themselves, as well as levels of perceived control of associated behavioral factors.

Social Supports - Peer Leadership

Although many factors can positively affect student support, including faculty interactions (Katz, Lazer, Arrow, & Contractor, 2004; Lambert, Terinzini, & Lattuca, 2007; Thompson, 2013) and parents (Stiller & Ryan, 1992; Estell & Perdue, 2013; Lee, 2018), peer members within a social group are consistently reported as the greatest influences on other students. For instance, Astin (1993) in *What Matters in College? Four Critical Years Revisited* concluded, "The student peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398). Peers are the most important group in delivering peer education and methodology, advocating student causes, and demonstrating positive behavior. Not to mention, peers are a greater influence on behavior change, such as diet and exercise, than parents or environment (Okun, Karoly, & Lutz, 2002; Prochaska, Rodgers, & Sallis, 2002). Also, if students with higher GPAs provided positive reinforcement to peers with lower GPAs, both students received similar grades (Witkow & Fuligni, 2011).

According to Ender and Kay (2001), peer leaders were "students who have been selected and trained to offer services to their peers that are intentionally designed to assist in the adjustment, satisfaction, and persistence of students toward attainment of their educational goals" (p. 1). Colleges are investing tremendous resources in leadership development programs because they recognize the need for graduates who demonstrate leadership skills in the workforce (Haber, 2012; Shertzer, Wall, Frandsen, Guo, Whalen, & Shelley, 2005). Since the 1970s, there has been a shift in leadership philosophies from

primarily individual and positional approaches to more collaborative and inclusive methods (Northouse, 2016). Residential life and orientation offices were among the first across the country to adopt peer leadership programs in their efforts to influence student behavior (Ender & Kay, 2001).

Today, the scope and breath of college peer leaders has expanded to include new opportunities such as counseling, group organizing, coaching, teaching, and specializing in health content. For example, noteworthy relationships have been found concerning peer support for sexual violence and students' intentions to be active or helpful bystanders (Banyard & Moynihan, 2011; Brown & Messman-Moore, 2010). At least two studies have specifically shown men's willingness to intervene in the prevention of sexual violence was strongly related to their perceptions of their peers' willingness to intervene (Fabiano, Perkins, Berkowitz, Linkenbach, & Stark, 2003; Stein, 2007). Further, Shook and Keup (2012) shows how peer leadership has developed and evolved into new campus areas such as health and wellness, campus and community service, alumni relations, and retention.

Although ample opportunities exist for faculty interactions, they tend to go underutilized, and have not been enough to improve student leadership. According to Thompson (2013), "both formal and informal interactions are needed to create an environment conducive to students' intellectual and personal development towards leadership," (p. 3). Opportunities both inside and outside of the classroom have been shown to be necessary for student leadership development. Many universal leadership programs have been found to be effective for some, but opportunity for individual application is necessary for all to benefit (Keating, Guan, Pinero, & Bridges, 2014).

Peer leadership is also effective in creating positive changes among many areas of college health. White, Park, and Israel (2009) found that peer education had a positive influence on student alcohol consumption and weight management. The authors concluded peer education provides meaningful contributions in the prevention of potentially hazardous health behaviors. Student leaders who presented health and wellness information were believed to be the most relevant and most effective educators (Clason & Beck, 2001). Further, Turner and Shephard (1999) identified ten advantages to employing peer leaders in college health promotion including the following: relevance to other peers, effective behavioral modeling, cost effectiveness, significant sources of health information, ability to empower and educate, effective problem solving, and capacity to influence through continuous contact with others (Turner & Shephard, 1999).

The purpose of my study was to better understand the effect of the health ambassador program on reducing drinking, drug use, and other potential detrimental health behaviors among Buffalo State Greeks and athletes. As such, determining the effectiveness of the health ambassadors and their ability to provide peer leadership (e.g. health and leadership content) was the central theme of this study. Both theoretical frameworks were aligned to address the influence of the health ambassadors on other students' health beliefs, attitudes, and behaviors. For instance, Self-Efficacy Theory was embedded into various questions in the health ambassador group interview and is also included in the college student survey. The TPB instrument included seventeen items addressing ambassador attitudes, norms, perceived controls, and intentions. Collectively, the measures associated with self-efficacy and TPB helped to address RQ 1, RQ 2, and RQ 3.

Implications

Although promoting and improving health on a college campus is a complex problem to address for many administrations of institutions of higher education, several opportunities exist to positively influence health among college students. I developed and implemented a student leadership program that supports and addresses the way students engage within the college environment. This approach incorporated the Self-Efficacy Theory and TPB. Merely communicating knowledge is inadequate to modify student health behaviors (Gifford & Nilsson, 2014; Sterling, 2010; Stern, 2011). How students navigate the college environment can increase health risks or determine a greater likelihood of health opportunity (Schulenberg, Maggs, & Hurrlemann, 1997). In this study, I attempted to investigate and improve student leadership in promoting health on a college campus. Ideally, peer leaders, with support from faculty, will be better equipped to influence other students to counteract their participating in hazardous alcohol, marijuana and non-medical prescription drug practices.

Chapter 3

METHODOLOGICAL APPROACH

The primary objective of this study was to investigate and improve student leadership in promoting health on a college campus. Above all, my purpose was to better understand the influence of the Health Ambassador program at SUNY Buffalo State College on other students' perceptions, beliefs, and attitudes toward adopting and maintaining a healthy lifestyle. Additionally, through a convergent parallel mixed methods design, this study intended to reduce drinking, drug use, and other potential detrimental health behaviors among Buffalo State Greeks and athletes.

Convergent Parallel Mixed Methods Design

According to Creswell (2014), Convergent Parallel Mixed Methods research occurs when "a researcher collects both quantitative and qualitative data, analyzes them separately, and then compares the results to see if results confirm or disconfirm each other" (Creswell, 2014, p. 269). Further, a mixed methods paradigm takes place when the researcher believes that collecting different data types provides a better understanding of the problem of practice than either quantitative or qualitative methodology alone (Creswell, 2014). Figure 2 (below) represents an illustration of the Convergent Parallel Mixed Method Design offered in Creswell's (2014) book titled *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.*

Research Design: Qualitative, Quantitative, and Mixed Methods.

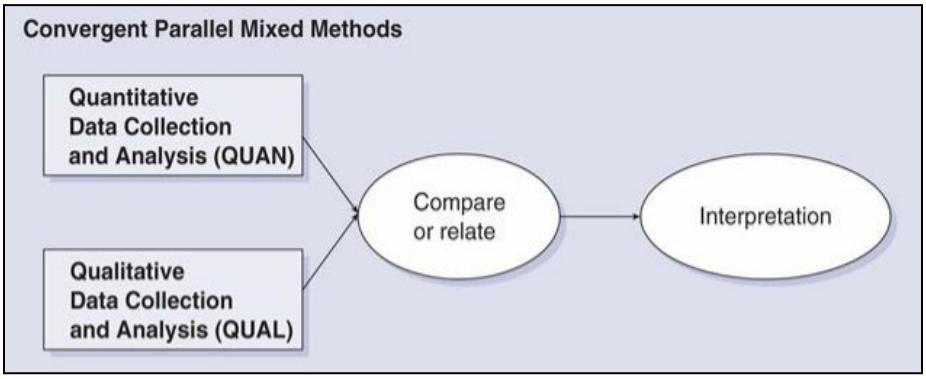

Figure 2. adapted from pg. 270 figure 10.1 in *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*.

Typically, this design includes the number of study elements, how and when these elements are delivered, whether qualitative or quantitative methodology is valued more, and how each methodology is combined or blended. In reviewing these elements, this research utilized several of the requirements needed to qualify as a Convergent Parallel Mixed Methods Research Design. First, this study used both quantitative and qualitative methods with both employing a pre-post design. The quantitative assessment included participants from two campus sororities and three campus athletic teams who both completed a pre- and post- college student survey. Conversely, the qualitative assessments were guided by a social constructivist approach that involved health ambassador pre- and post- group interviews and observations of the health ambassadors during the health ambassador trainings and workshops. Crotty (1998) explains the purpose of social constructivism in that it "emphasizes the hold that our culture has on us: it shapes the way we see things and gives us a quite definite view of the world" (Crotty,

1998, p. 58). This framework was chosen as it captured ambassador perceptions of collective efficacy in providing peer education.

Collectively, this Convergent Parallel Mixed Methods Research Design attempted to answer the following three research questions as they pertain the effectiveness of the HA program:

RQ 1: How and to what extent does implementation of the Health Ambassador (HA) program affect individual student ambassador self-efficacy?

RQ 2: How and to what extent does implementation of the Health Ambassador (HA) intervention affect the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use?

RQ 3: How does the health ambassador program influence the collective efficacy of the health ambassadors?

Throughout the remainder of this chapter, I will present information about the study setting, participants, innovation, and instruments. I will describe the procedures for data collection and analysis. Further, I will present information on my subjectivity and positioning and validity and validation strategies.

Setting and Participants

The study took place at SUNY Buffalo State College in Buffalo, NY, as discussed in Chapter 1. The study included two principal groups. The first group was comprised of students who were enrolled in my Health Ambassador (HA) program at SUNY Buffalo State College. The second group consisted of SUNY Buffalo State men and women, aged 18 or older, who were members of intercollegiate athletic teams or participated in an existing sorority.

Health Ambassadors

Group 1 participants in this research study included all eighteen students who joined the Health Ambassador program during the 2018-2019 academic school year. During the fall 2018 semester, thirteen health ambassadors participated in the study. However, following the semester, four of these health ambassadors graduated. Two of the health ambassadors who graduated were male and two were female. The remaining nine health ambassadors who did not graduate were able to participate during the spring 2019 semester as well. Of the nine health ambassadors who participated during the entire 2018 – 2019 school year, six were female and three were male. Regarding the six females, one was a college sophomore, four were college juniors, and one was a college senior. Of the three males, one was a college junior, and two were college seniors. An additional five new health ambassadors were recruited following the fall 2018 semester and participated in the program during the spring 2019 semester. Of these health ambassadors, three were male and two were female. All five new health ambassadors were college seniors.

All eighteen health ambassadors (HAs) who participated during the entire academic year were between the ages of 19 and 22 and were enrolled in one of three academic majors offered within the Health, Nutrition, and Dietetics Department at SUNY Buffalo State. Sixty-seven percent (n=12) of the health ambassadors majored in the undergraduate Health and Wellness program, while the remaining 33% (n=6) were split evenly between the Didactic (n=3) and Coordinated (n=3) programs offered within the Nutrition and Dietetic program. The HAs were purposefully selected to participate in this study. Purposeful sampling includes enlisting individuals or groups of people that have

specialized knowledge of, for example, health or nutrition, or understanding within a specific phenomenon (Creswell & Plano-Clark, 2011).

Intercollegiate Athletes and Greek Organizations

Group 2 participants in this research study included SUNY Buffalo State College men and women 18 years of age and older who were recruited from three Intercollegiate Athletic teams and two campus sororities. Students from Intercollegiate Athletics and Greek Life organizations were recruited because they frequently exhibit an increased risk of experiencing alcohol and substance abuse problems (Turrisi, Mallet, & Mastroleo, 2006).

Table 1 on the following page describes key characteristics of both participating sororities. Throughout the study, Sorority 1 served as the experimental group, while Sorority 2 was the control group. Both sororities participated in a pre-post design, which will be further explained in the mixed methods design and corresponding procedures.

Table 1

Participating Sororities: Sorority 1 and Sorority 2 (N=38)

Demographic Questions	Sorority 1 (n=17)		Sorority 2 (n=21)	
	n	%	n	%
Average age	21	n/a	20	n/a
Gender				
Male	0	0	0	0
Female	17	100	21	100
Race				
White	11	55	15	71
African American	3	15	1	5
Asian American	1	5	1	5
Latino/a	2	10	4	19
Native American	2	10	0	0
Not specified	1	0	0	0
Course Credits				
Sophomore (30-59)	5	25	5	24
Junior (60-90)	4	20	7	33
Senior (90-120)	11	55	9	43
Live on campus				
Yes:	6	30	6	29
No:	14	70	15	71

Table 2 (below) describes key characteristics of the three participating athletic teams. Throughout the study, Team 1 served as the experimental group, while Team 2 and Team 3 were the control group. All three athletic teams participated in a pre-post design, which will be further explained in the mixed methods design and corresponding procedures.

Table 2

Participating Athletic Teams: Team 1, Team 2, and Team 3 (N=95)

Demographic Questions	Team 1 (n=17)		Team 2 (n=21)		Team 3 (n=57)	
	n	%	n	%	n	%
Average age	19	n/a	19	n/a	18	n/a
Gender						
Male	17	100	0	0	57	100
Female	0	0	21	100	0	
Race						
White	10	59	20	95	23	40
African American	4	24	0	0	31	54
Asian American	0	0	0	0	0	0
Latino/a	0	0	0	0	0	0
Native American	0	0	0	0	1	2
Not specified	3	18	1	5	2	4
Course Credits						
Freshman (0 -30)	6	35	6	29	28	49
Sophomore (30-59)	7	41	7	33	14	25
Junior (60-90)	4	24	6	29	13	22
Senior (90-120)	0	0	2	9	2	4
Live on campus						
Yes:	4	24	9	43	37	65
No:	13	76	12	57	20	35

Health Ambassador Innovation

"Changing the world begins with change in ourselves, and then with changes in one another" (Hargreaves & Fullan, 2009). To address the challenges of alcohol, marijuana, and non-medical abuse of prescription drugs at SUNY Buffalo State, I implemented a multiphase health promotion innovation for the college campus. This innovation consisted of a five-week health ambassador health and leadership training comprised of five health and five leadership modules. These modules used the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) framework. Through

five integrated phases, the ADDIE framework offers general strategies for various types of design models in developing instructional materials (Gustafson & Branch, 1997; Heinich, Molenda, Russell, & Smaldino, 2005). The initial aim of ADDIE was to improve the usefulness of teaching and learning by connecting education to completing a task. This was intended to reduce the redundancy in courses while providing opportunity for students to obtain the necessary skills and attributes to complete the task (Allen, 2006). The overall innovation was comprised of several integrated steps.

The five-week health ambassador health and leadership innovation aimed to improve individual and group health ambassador efficacy through shared development, ownership, and engagement of health and leadership content. By using a blended approach, which incorporated both in-person trainings and online modules, student ambassadors were provided additional opportunities to improve self-efficacy toward serving as a student leader, while adopting many skills and tools necessary to influence other students' beliefs and behaviors toward living a healthy lifestyle.

The health and leadership training program began during the week of October 15-19, 2018 and included an in-person training on prescription stimulants followed by a Blackboard module on self-concept. During the second week, classroom training on prescription depressants was provided, while the Blackboard module offered readings and interactive lessons regarding the characteristics of peer leaders. The third week continued to address alcohol and substance abuse prevention through classroom education on prescription painkillers, and a Blackboard module on change leadership. An in-class workshop on binge drinking prevention, coupled with a Blackboard module on leadership efficacy, was the focal point of the fourth week. Finally, the ambassador

training program concluded during the fifth week, with a marijuana prevention workshop, and a Blackboard module on group development.

See Table 3 below for training topics and dates.

Table 3

Health Ambassador Innovation: Health and Leadership Training Topic

Dates	Health Topic	Leadership Topic
October 15-19, 2018	Prescription Stimulants	Self-Concept
October 22-26, 2018	Prescription Depressants	Characteristics of peer leaders
November 12-15, 2018	Prescription Painkillers	Change Leadership
February 4-8, 2019	Binge Drinking	Leadership Efficacy
February 11-15, 2019	Marijuana	Group Development

The structure and format of all five trainings were collaborative and highly interactive. The innovation was also been broken down into smaller segments for a specific reason. Positively changing college health is an extremely complex and often difficult process. On page 40 of *Small Wins: Redefining the Scale of Social Problems*, Karl Weick writes, "to recast larger problems into smaller, less arousing problems, people can identify a series of controllable opportunities of modest size that can produce visible results and that can be gathered into synoptic solutions" (Weick, 1984). The innovation was designed to focus on taking largescale health and leadership content and distilling the information down into smaller manageable parts. This approach was embedded within all aspects of the innovation to ensure the greatest potential existed for on-going individual and group development.

The health ambassador training was completed over two semesters. See table three for dates and topics. As noted earlier, eighteen health ambassadors participated in the program during the 2018-2019 academic year. All eighteen health ambassadors attended at least two of the five health ambassador training weeks. However, which trainings they attended depended on when each health ambassador started the program, when they graduated from the college, or whether they participated during one or both academic semesters.

At the beginning of the five-week innovation, the thirteen ambassadors were divided into three teams with two groups of four and one group of five. These groups were randomly assigned using the following process. I wrote the names of all thirteen ambassadors on thirteen sheets of paper and placed them in an envelope. The first four selected were assigned to team one, the next four selected were appointed to Group 2, and the remaining four names were delegated to team three. Smaller groups were chosen to provide as many opportunities as possible to capture health ambassador input and insight into developing the health and leadership content. During each week, the health ambassadors participated in both the in-person health promotion workshop and the online leadership training module. Each of the five weeks followed the same protocol of a ninety minute in-person health promotion workshop followed by an online leadership training module. The following is an overview of week 5 which addressed binge drinking and group development.

Beginning with the workshop on binge drinking prevention, I presented a twenty-minute overview of binge drinking, discussed its relevance to college campuses, and highlighted potential presentation subtopics. These subtopics included characteristics of

risky drinking, normative beliefs and behaviors, drinking consequences, and keys to preventing binge drinking. Following my presentation, ambassadors were divided into groups and asked to generate ideas and strategies to improve upon each subtopic and the overall subject matter content. Groups were given thirty minutes to complete this exercise. For the remainder of the workshop, each group presented their recommendations and suggestions for improvement. The complete list of suggestions and recommendations was listed on the board and the entire ambassador group selected key workshop concepts. Finally, they were asked to collaboratively develop the binge drinking workshop for sororities and athletic teams.

Following the workshop, all ambassadors completed the Blackboard module on group development. This module centered on Tuckman's (1977) 5 stages of group development and incorporated videos, journal articles, and discussion posts. Links to several videos were provided for the health ambassadors. I offered a detailed overview of each of the five stages and the goals and objectives of the health ambassador program. Based on the video, all ambassadors were asked to write a discussion post and a journal entry. The discussion post asked the ambassadors to identify which of the five stages we were in and what they believed our ambassador norms should be for working with one another. A group of additional ambassadors were asked to respond to each other's posts and provide feedback. The journal entry connected to the binge drinking prevention workshop and asked each ambassador to write about their beliefs and perceptions regarding college drinking and why it is important for them to help students participate in less risky behaviors.

Finally, throughout the entire innovation, suite materials and in-person trainings were evaluated. The formative evaluations were focused on the online suite of leadership materials and consisted of weekly participant evaluations of each module. I reviewed evaluations and determined an overall weekly theme, which was then posed as a question to the entire group during the in-person sessions. Additionally, summative evaluations consisted of different examinations on key concepts from training curriculum, weekly videos, discussion posts, and journal articles. All information obtained was shared with the health ambassadors and used as an additional support as we finalized the five health and leadership workshops.

Following the five week training, the health ambassadors delivered the health and leadership workshops to members of one athletic team and one sorority. See table 4 below for intervention content and schedule.

Table 4

Health Ambassador Innovation: Health and Leadership Intervention

Workshop Content	Month of Workshop
Prescription Stimulants	November 2018
Prescription Depressants	December 2018
Prescription Painkillers	January 2019
Binge Drinking	March 2019
Marijuana	March 2019

Like the ambassador trainings, the structure and format of all five ambassador workshops was collaborative and highly interactive. The health ambassador workshops were designed in a specific manner. Initially, prior to all workshops, the thirteen health

ambassadors who participated during the fall 2018 semester were randomly assigned into two groups of nine which were labeled “Ambassador 1” and “Ambassador 2”. Again, these groups were randomly assigned using the following process. I wrote the names of all thirteen ambassadors on thirteen sheets of paper and placed them in an envelope. The first seven selected were assigned to Ambassador 1, while the remaining six names were assigned to Ambassador 2. During the fall 2018 semester, Ambassador 1 presented the workshop on Prescription Stimulants, while Ambassador 2 presented the workshop on Prescription Depressants. However, as noted previously, four health ambassadors, two from Ambassador 1 and two from Ambassador 2, graduated after the fall 2018 semester.

The remaining nine health ambassadors, five from Ambassador 1 and four from Ambassador 2, continued their participation throughout the spring 2019 semester. In addition, during the spring 2019 semester, five additional health ambassadors were recruited into the health ambassador program. These five names were written on five pieces of paper and put into an envelope. The first three names were assigned to Ambassador 1, while the remaining two names joined Ambassador 2. Throughout the spring semester, Ambassador 1 presented the workshop on Prescription Painkillers, Ambassador 2 presented on Binge Drinking prevention, while both ambassador groups presented the Marijuana prevention workshop together. See Table 5 for Ambassador 1 and Ambassador 2 workshop participation.

Table 5

Health Ambassador Innovation: Group Participation in Health and Leadership Intervention

Health Ambassador Participating Group	Workshop Content	Month of Workshop
Ambassador 1	Prescription Stimulants	November 2018
Ambassador 2	Prescription Depressants	December 2018
Ambassador 1	Prescription Painkillers	January 2019
Ambassador 2	Binge Drinking	March 2019
Ambassador 1, 2	Marijuana	March 2019

Each of the five workshops lasted about one hour and was divided into three twenty-minute segments. Prior to the start of each workshop, each ambassador group determined specific roles for each group member during the workshop. For instance, they decided who would present specific health content, facilitate small and larger group discussions, and record responses from the Greeks and athletes. The first segment included small group activities facilitated by the health ambassadors. For this segment, participating Greeks and athletes were divided into five small groups. The group size depended largely on the number of participants attending each workshop. Each small group was facilitated by one health ambassador. The facilitation included presenting four five-minute discussion prompts for each small group to discuss. For instance, during the Binge Drinking and Group Development workshop the four discussion prompt areas included: (1) norms associated with Greeks and athletes who engage in high risk drinking (2) initial knowledge of workshop topic (e.g. number of drinks to qualify as binge drinking, effects of alcohol on the body and brain, etc.), (3) beliefs around alcohol and

drug use on college campuses, and (4) leadership associated with being a Greek and an athlete, and importance of belonging to a group. During this small group activity, a subset of the presenting ambassadors also wrote down participant responses for each of the discussion prompts. Following these discussions, two ambassadors collected the information gathered and began to identify key themes and ideas recorded during the small group discussions.

While this information synthesis was occurring, the remaining three ambassadors began the second twenty-minute segment. This segment included a twenty-minute PowerPoint or Prezi presentation on the specified health and topic. As previously stated, the material for each of the five workshops was collaboratively developed by me and the health ambassadors at the end of the health ambassador trainings. For instance, we were able to combine our knowledge and experiences with college drinking prevention to develop a risky drinking presentation that included characteristics of risky drinking, normative beliefs and behaviors, drinking consequences, and keys to preventing binge drinking.

The final twenty-minute segment began with a five-minute question and answer period for those health ambassadors who presented in segment two to address any comments and answer participant questions from their presentation. During this time the three ambassadors who did not present recorded participant questions and ambassador answers on the whiteboard. They also wrote down key themes and ideas solicited in segment on the whiteboard. Following the question and answer period, all ambassadors spent five minutes reviewing the key themes and ideas with the entire Greek organization or athletic team. For the remaining ten minutes, the themes and ideas were used to engage

in a large group discussion to determine strategies and techniques to have athletes and Greeks serve as college leaders and model healthy behavior.

Data Collection

As noted in Chapter 1, the purpose was to better understand the influence of the Health Ambassador program at SUNY Buffalo State College on the ambassadors themselves, and determine the beliefs, attitudes, and perceptions of Greeks and athletes toward adopting and maintaining a healthy lifestyle. The ultimate research aim was to reduce drinking, drug use, and other potentially detrimental health behaviors among SUNY Buffalo State students. This convergent parallel mixed methods approach incorporated two different study groups, a five-week ambassador intervention, and utilized an intervention-control model with pre-post qualitative and quantitative methodologies. Collectively, the study design, peer-driven innovation, and diversity among participant groups, provided further direction and insight into cultivating a culture of wellness at SUNY Buffalo State**.**

The study was comprised of two groups. Group 1 consisted of the eighteen participating health ambassadors. This group participated in the qualitative methodology including group interviews and two types of observations. The second group was comprised of three athletic teams (Team 1, Team 2, and Team 3) and two sororities (Sorority 1 and Sorority 2). All participants in the second group participated in the quantitative methodology, while only the Team 1 and Sorority 1 participated in the qualitative observations. These qualitative observations were completed during three health ambassador workshops. Throughout the study, Sorority 1 and Team 1 served as the intervention group, which included their participation in the five health ambassador

workshops, and completion of pre- and post- college student survey. Team 2 and Sorority 2 served as the control group and only completed the pre-and post- college survey.

Qualitative Methods

This study incorporated two types of qualitative data to better understand the role and influence of socially constructed beliefs on collective efficacy, team performance, and individual contribution. Initially, to explore collective efficacy and its impacts on team rapport and group effectiveness, I utilized a ten-question college student group interview and a TPB questionnaire. The TPB questionnaire is described in detail in the quantitative section.

Interviews (Group 1—Health Ambassadors). Following the ambassador trainings, and prior to start of the health and leadership workshops to participating Greeks and athletes, I collected my qualitative data. During the week of October 29 – November 2, two thirty-minute group interviews were conducted with two groups of six health ambassadors each. One health ambassador selected to opt of the interview. These interviews included a pre-post design and consisted of ten questions. The interviews were intended to assess their attitudes and beliefs about being a health ambassador, determine the importance of working in a team environment, while discovering potential challenges that may affect their ability to convey health information to Greeks and athletes. My primary goal of the group interviews was to capture how health ambassadors increase their self and collective efficacy in presenting prevention workshops on alcohol, marijuana, and non-medical use of prescription drugs for college sororities and athletes.

However, prior to each interview, each group was read a consent form highlighting the scope and purpose of this study, the benefits and barriers to participation,

and describing a plan to maintain participant confidentiality. Each of the ambassadors was assigned a number that was used for both the pre- and post- interviews. Due to the nature of these questions, the nature of the risks for these questions were minimal and not personally compromising. The results were discussed in group fashion with the other ambassadors after they had been compiled to provide the group a sense of changes experienced.

The interview procedure was completed using the following process for both the pre- and post- interviews. The interview consisted of ten questions, which assessed various aspects of the Health Ambassador individual and collective efficacy and the overall Health Ambassador program (See Appendix A for interview protocol). For instance, the interview questions inquired about their role and beliefs about student leadership including; significance associated with serving as health ambassador, comfort level and associated pressures with becoming a peer leader, level of self-efficacy in providing peer leader-student interactions using alcohol, marijuana, and prescription drug content, and perceptions of other ambassador confidence levels in serving as a peer leader. Further, the interview questions assessed the impact of other health ambassadors on individual and team performance.

The interview addressed two research questions. For instance, Questions 9 and 10 (see Table 6 below), which centered on assessing the impact of the Health Ambassador program on self-efficacy and contributing to a team, respectively, addressed my first research question RQ 1: How and to what extent does implementation of the Health Ambassador (HA) program affect individual student ambassador self-efficacy?

Table 6

Alignment of Interview Questions to RQ 1

Interview Question	Concept measured and relation to RQ 1
9) "How has the health ambassador program helped you become more confident in providing health and leadership information to Greeks and athletes?"	Ambassador program influence on confidence (Self-Efficacy)
10) "How has the health ambassador program helped you become more confident in your abilities to work with other peer leaders in providing health and leadership information to Greeks and athletes?	Ambassador program influence on individual confidence and contributing to a team (Self-Efficacy)

Additionally, three questions (see Table 7 below) addressed RQ 3: How does the collective efficacy of the student ambassadors affect individual ambassador performance in conveying health promotion information for at-risk college students?

Table 7

Alignment of Interview Questions to RQ 3

Interview Question	Concept measured and relation to RQ 3
6) "How comfortable do you believe other health ambassadors are in providing peer leader-student interactions using alcohol, marijuana, and prescription drug content?"	Comfort level of other health ambassadors in serving as peer leaders (Collective Efficacy)
7) "How does the level of confidence that other ambassadors convey when providing health and leadership content influence how you will present information to Greeks and athletes?	Confidence level of other ambassadors and its influence on overall ambassador performance (Collective Efficacy)
8) "What is your level of confidence that all health ambassadors are able to collectively develop health and leadership material and effectively serve together as student leaders to Greeks and athletes?"	Confidence level of other ambassadors and its influence on overall ambassador teamwork (Collective Efficacy)

The interviews were recorded and transcribed. Post-interviews followed the same procedure and were completed in April 2019 following the fifth health and leadership workshop.

Observations. (Group 1—Health Ambassadors—and Sorority 1 and Team 1 of Group 2). Secondly, I conducted two different observations (see Appendix B for observation matrix). First, during the health ambassador trainings, I closely observed each of the five in-person trainings. For instance, I studied how the groups of ambassadors interacted during my individual presentations. I observed how the ambassadors engaged with the material being taught and whether they offered questions

or comments. Further, I observed each individual ambassador group as they worked together to generate ideas and strategies to develop their health and leadership presentations. Finally, I watched how each group presented their recommendations for improvement, viewed their engagement and level of support for the other groups, and noted instances of teamwork and collaboration among the health ambassadors. Throughout each stage of these observations, I remained active and took brief notes which highlighted key ideas and themes.

Following each in-person training, I expanded my initial observations into very detailed field notes. To do this, I mirrored a process from Emerson, Fretz, and Shaw's (1995) book titled *Writing Ethnographic Fieldnotes.* In the book, the authors explain that writing field notes goes beyond copying facts and figures, and instead "involves active processes of interpretation and sense making" (Emerson, et al., 1995). Through these observations, I actively assessed the health ambassador abilities to socially and collectively construct specialized health and leadership content and determine its role in the formation of collective efficacy among them. At the end of all ambassador trainings, I had a set of five fieldnotes to interpret and analyze.

Additionally, I observed the health ambassadors as they presented during three of the health and leadership workshops to Greeks and athletes. I also observed Sorority 1 and Team 1 during these three workshops. Sorority 1 and Team 1 were observed to determine their level of participation and engagement during each of the three workshops. Observations were only conducted during three workshops for a variety of reasons. First, I wanted to provide ample opportunity for health ambassadors and Greeks and athletes to be able to freely exchange ideas and beliefs without the presence of an

authority figure. Second, I wanted the health ambassadors to feel more comfortable owning the health and leadership content without looking to me for advice or approval. The observations had two goals. The first was to capture the health ambassador interpretations and beliefs on using their specialized health content as they designed substance use prevention interventions for college athletes and sororities. The second was to obtain a better understanding of how Greeks and athletes participate and interact with health and leadership content provided by their peers. These observations centered on hermeneutical inquiry (Crotty, 1998).

According to Crotty (1998), hermeneutic investigation uncovers "meanings and intentions that are, in a sense, hidden in the text" (Crotty, 1998, p. 91). Further, Koch (1999) explains that knowledge is fashioned through the exchange of ideas, while one's understanding develops through hermeneutic dialogue between what was conveyed and who offered the question (Koch, 1999). During the presentations, I observed how the ambassadors interacted with the audience, how they presented (style, delivery, and poise), and how they worked in a team presenting with other ambassadors. For the purpose of standardization, I used the same process to take notes as during the ambassador trainings: expanding my observations into field notes, resulting in a set of field notes. This observation of Team 1 and Sorority 1 yielded a set of three field notes (one field note for each of the three observations). My hope was that my presence was viewed by the student ambassadors and program participants as friendly and supportive. Collectively, both observations were aligned to address RQ 1 and RQ 3 as they assess individual and collective efficacy of the health ambassadors and helped determine the effectiveness of the health ambassador intervention.

Researcher reflection journal. Throughout the ambassador trainings and six-week ambassador workshops, a reflection journal was collected. Ortlipp (2008) describes the importance of the reflection process as it "helps to bring the unconscious into consciousness and thus open for inspection" (Ortlipp, 2008, p. 703). The journal included daily logs, reflections, experiences, and key learnings from the trainings and workshops. The primary purpose was to use journaling to make my beliefs, opinions, and experience visible as I engaged within the health ambassador program, providing mentorship to the health ambassadors during their trainings, and observing all student groups during workshop presentations. These journals were completed using an informal structure and may be included throughout my data analysis.

Quantitative Methods

This study incorporated two types of quantitative data. The quantitative methodology that was used included a college student health survey and a Theory of Planned Behavior Questionnaire.

College student health survey (Group 2—Sororities 1 and 2, Teams 1 and 2). This twenty-nine item survey was intended to measure college students' participation in dangerous health behaviors and their associated risks with using alcohol, marijuana, and prescription drugs that are not prescribed to them (see Appendix C). The survey was divided into two major sections, demographics and health behaviors. The demographics section included nine questions which include items on age, race, employment, campus or non-campus residency, academic health major, student group/activity participation, and college credits earned. The health behaviors section contained twenty questions addressing alcohol, marijuana, and prescription drugs. Many of the questions in the

health behaviors section were derived from standard questions used on the Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Survey (YRBS). This survey is reliable and has been used in high schools, colleges, and universities all over the country. Also, all the YRBS questions are in the public domain, free of charge and the questionnaire can be modified or altered to suit the researchers needs. I have used this survey in prior research, as well as at schools and colleges within the Buffalo community.

For each substance, questions were asked assessing use over the past 30 days, as well as addressing the motives behind student substance use. For example, past 30-day use for marijuana was measured by asking "During the past 30 days, on how many days did you use marijuana regularly?". To measure use over a thirty-day period, a six-point Likert scale ranging from 0 days to 20-30 days was used.

Additionally, for each substance, the remaining questions addressed perception of harm of use, peer approval and disapproval, and social and retail availability. Perception of risk of harm questions determined how risky students consider marijuana, alcohol, and prescription drugs to be. Additionally, questions were asked about the ease of obtaining drugs and alcohol. An example of an access question was "How easy do you think it is for persons your age in your community to obtain marijuana?". These were assessed using a five-point scale which ranges from "very easy" to "very difficult".

Perception of risk of harm items were analyzed using a four-point scale and ranged from "no risk to great risk". For instance, a student's individual risk associated with non-medical use of prescription drugs was measured by asking "How much do you think people risk harming themselves physically or in other ways if they use prescription drugs that are not prescribed to them?". Students were asked eight questions regarding

the level of disapproval they believed they would receive from their peers and parents if they used alcohol, marijuana, and prescription drugs not prescribed to them. Of the eight questions, four assessed peer disapproval, while four measured parental disapproval. An example of a parental disapproval question was "How wrong do your parents feel it would be for you to have one or two drinks of an alcoholic beverages nearly every day?". Parental and peer disapproval questions use a four-point scale and range from "not at all wrong" to "very wrong". Finally, two questions were asked to assess participant self-efficacy. These questions were analyzed using a four-point scale and ranged from "not confident at all" to "very confident". For example, a participant's confidence level regarding positive decision making was measured by asking "How confident do you feel in your abilities to make positive health decisions in your life?". The second question assessed a participant's confidence level in refusing alcohol, marijuana, and prescription drugs.

As previously stated, all Group 2 members were asked to complete the college student survey. Yet, these members had different levels of engagement. Sorority 1 and Team 1 served as the two intervention study groups. Both Sorority 1 and Team 1 completed both pre- and post- college student surveys and participated in a five-session ambassador health and leadership intervention. As mentioned previously, Sorority 2, Team 2 and Team 3 served as the three control study groups. Members of Sorority 2, Team 2, and Team 3 did not participate in the ambassador workshops and only completed the pre- and post- college student survey. Their responses were used as a comparison to help determine the effectiveness of the ambassador workshops. Again, as previously noted in Table 5 above on page 54, all five workshops were completed during November

2018 - March 2019 and were provided within a reserved classroom at SUNY Buffalo State.

Theory of Planned Behavior questionnaire (Group 1—Health Ambassadors). This seventeen-item questionnaire was intended to measure individual and collective efficacy of the health ambassadors. More specifically, it helped to better understand the influence of socially constructed beliefs on collective efficacy, team performance, and individual contribution (see Appendix D). As previously stated, the TPB questionnaire employed a pre-post design with the pre-questionnaire being administered during the first week of the health ambassador trainings, and the post-questionnaire given following the final ambassador workshop.

The seventeen-item questionnaire was divided into four constructs, each including questions that elicit beliefs regarding alcohol, marijuana, and non-medical use of prescription drugs. All seventeen questions were asked using a 7-point scale, yet each construct had different end points ("pleasant" to "unpleasant", "agree to "disagree", etc.). The first construct, titled "Attitude", used a use a seven-point Likert scale which ranged from "pleasant" to "unpleasant". Construct one asked three questions about serving as a peer leader, presenting health information to other students, and participating on a team. An example of an attitude statement was, "Presenting health and leadership information to Greeks and athletes is".

The second construct, "Subjective Norm", used a seven-point Likert scale which ranges from "Agree" to "Disagree". This construct contained three approval questions (e.g. family, students) regarding support ambassadors believe they receive for acting in a leadership capacity. More specifically, the subjective norm concentrated on determining

perceived social pressure of properly preparing the health ambassadors with the skills and aptitudes necessary to influence other students, while determining their own locus of control. An example of a subjective norm statement was, “Other SUNY Buffalo State students would approve of me providing health and leadership information to Greeks and Athletes”.

Construct three, “Perceived Behavioral Control”, used a seven-point Likert scale that ranges from “Agree” to “Disagree”. This construct had eight questions that centered on assessing ambassador confidence in themselves and their beliefs about the capabilities of other ambassadors. For example, a question in the perceived behavior control construct asked about a health ambassador’s level of difficulty with discussing sensitive health topics like alcohol, marijuana, and prescription drugs with Greeks and athletes. Finally, construct four, “Intention”, uses a seven-point Likert scale that ranges from “Likely” to “Unlikely”.

Construct four had three questions that assessed the likelihood for each ambassador to use the material learned during the health and leadership trainings to serve as a student leader and work in a team. An example of a construct four question was, “I expect to provide Greeks and athletes with improved skills and knowledge necessary for them to make healthier choices”. It is important to note that I developed all questions on this survey and have used the standard 7-point Likert scales recommended by Izek Ajzen in his article titled *“The theory of planned behavior”* (Ajzen, 1995). This survey was not pilot tested during my previous research cycles.

Data Analysis

In order to address the study research questions, I employed both qualitative and quantitative data analysis techniques. According to Ivankova (2014), mixed methods research analysis:

> Implies analyzing quantitative and qualitative data using the available statistical and inductive analysis procedures, along with applying an integrated analysis that focuses on the goals of the research questions of each study strand, and the purposes of mixing quantitative and qualitative methods in the study (p. 245).

Qualitative

Qualitative analysis techniques were used on both the interviews and fieldnotes to examine and interpret RQ 1 and RQ 3. These research questions concentrated on understanding various aspects of individual and collective efficacy of the health ambassadors. This was an inductive analysis approach where the "researcher begins with an area of study and allows the theory to emerge from the data" (Straus & Corbin, 1998, p. 12). Accurately and sufficiently analyzing qualitative interviews and observations was completed using the six-step thematic process provided on pgs. 247 – 249 in *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Creswell, 2014). Figure 3 (below) represents an illustration of the six-step process.

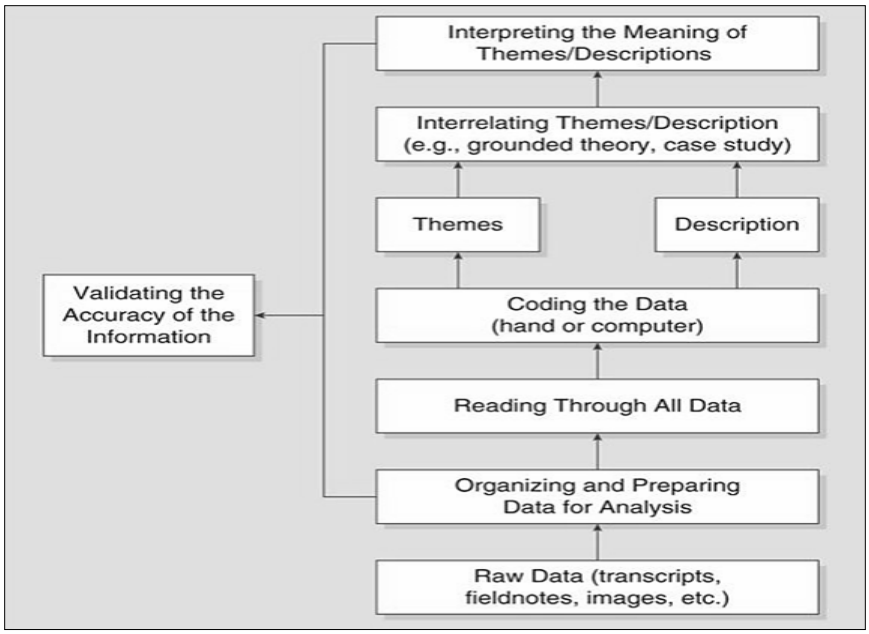

Figure 3. adapted from p. 247 figure 9.1 in *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*.

Nowell, Norris, White, and Moules (2017) define thematic analysis as "a technique of forming, describing, stating, and analyzing themes unearthed within sets of data" (Nowell, et al., 2017, p. 2). The analysis process was a combination of a web-based software (NVivo) and manual techniques. According to Wong (2008), "NVivo is a computer-assisted qualitative data analysis software (CAQDAS) which allows for coding, sorting and retrieval of data, and was designed to integrate coding with qualitative linking, shaping and modelling" (Wong, 2008, p. 15). Step one was mainly preparation and centered on arranging collected data for analysis. Throughout this step, recorded interviews were transcribed, and field notes were typed following each observation into Microsoft Word. These transcriptions and typed field notes were then arranged for review and initial discovery of overall meaning (step 2). Specifically, I determined broad participant ideas and insights, how these ideas and insights are expressed (tonality), and

began to conclude the credibility of the collected data. Further, these Word documents were then be imported directly into NVivo in preparation for coding.

Step three involved open coding for both the interviews and observations. When referring to qualitative analysis, “a code is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (Saldaña, 2015). During this open coding step, coding was completed within the margins of the document in NVivo. To help ensure accuracy and comprehensiveness, I coded information and completed analytic memos. Holton (2010) refers to coding as a truthful process because it “forces the researcher to verify and saturate categories, minimizes missing an important category, and ensures relevance by generating codes with emergent fit to the substantive area under study” (p. 36). The coding within the margins provided a visual representation as to what information had been coded and where the information existed in the document. All initial codes were then organized into a master code list in the NVivo document. This master list of codes was cleaned, and all codes immaterial to my research questions were removed. For instance, some initial codes included “providing a healthy voice to students”, “helping others learn”, “norms and traditions create risk”, “social pressures with serving a campus leader”, “pressure balancing expectations”, “serve as a catalyst for students”, and “social connectedness and teamwork”.

Step four was an iterative process intended to generate the remaining codes and then cluster them into specific themes. The goal of step four was to review and reduce the qualitative data until only three to five central findings remained. Step five included writing a rich narrative detailing these central findings as well as sub-themes with

detailed descriptions of the participants. Finally, in step six my qualitative findings were interpreted to gain greater insight and capture the associated meanings. This meaning provided the lessons learned from the analytical process and offered new suggestions and insights into what new information needs to be addressed.

Quantitative

College student survey. This quantitative data, collected through the college student survey, was assessed to measure the change in student attitudes, beliefs, and behaviors regarding their health. The degree of change along with the success of the ambassador innovation, addressed my RQ 2: How and to what extent does implementation of the Health Ambassador (HA) intervention affect the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use?

As described above, the survey was comprised of 29 items containing six constructs. Based on prior cycles and related literature, I was able to speculate that participating Greeks and athletes will report that marijuana and alcohol are the easiest substances to obtain, and their greatest use rates will result from excessive drinking (binge drinking), marijuana, and prescription depressants and stimulants (e.g. Adderall and Xanax). Further, for a student who is contemplating or continuing substance use, peer approval would be a greater influence and motivating factor than parental disapproval. Finally, I believed sororities and athletes will report less risk with alcohol and marijuana use than they will with prescription drug use and abuse.

The collected survey data was inputted into Statistical Package for Social Sciences (SPSS) for further analysis. There were a total of 31 variables which are defined by name, type (string or numeric), label, values, and measure. For example, “Gender,”

was defined as numeric and is categorical, that is "1 = Male, 2 = Female, and 3 = other." The same method was used to represent a student's class rank based on the number of credits completed. Students were asked to specify their race and had the option of specifying an "Other" race, which became its own variable. Race was a categorical variable where "1 = Asian American … 6 = Other (please specify)" and Race_Other was the only string variable. The measure for the demographic questions was categorical since these variables had two or more options (ex: male, female, and other).

Aside from the demographic questions and the questions which ask for 30-day use, the remaining questions were asked on a Likert scale format which required the measure to be set at the ordinal data. It was important to keep the natural ordering of the variables to avoid loss of power. An example of ordinal data comes from the question which asks, "How easy do you think it is for persons your age in your community to obtain prescription pain relievers (such as OxyContin, Percocet, or Vicodin) that were not prescribed to them?" Students could choose between 1: Very easy, 2: Somewhat easy, 3: Somewhat difficult, 4: Difficult, 5: Very difficult.

This quantitative data was assessed in a variety of ways to measure the change in student attitudes, beliefs, and behaviors regarding their health. The degree of change along with the success of the ambassador innovation, helped address my RQ 2: How and to what extent does implementation of the Health Ambassador (HA) intervention affect the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use?

For instance, data from both the pre- and post- surveys were inputted into Statistical Package for Social Sciences (SPSS). Data cleaning and analysis occurred one

week following both surveys being inputted into SPSS. For each of the six survey constructs, descriptive statistics (mean, median, standard deviation) were calculated and compared between the Group 2 participants to look for differences between the two participating sororities and two athletic teams. An Analysis of Variance (ANOVA) test and several paired samples t–tests were conducted using SPSS, to determine how students feel about alcohol, marijuana, and non-medical use of prescription drugs. At study initiation, I ran case summaries for descriptive statistics of sets of intervention group (Sorority 1 and Team 1) and control group (Sorority 2, Team 2, and Team 3) testing for possible associations or differences between each group.

Additionally, total mean change from pre- to post- survey for four survey constructs were analyzed for the intervention group (Sorority 1 and Team 1) and the control group (Sorority 2, Team 2, and Team 3). These are Construct 2 *Alcohol and Drug Availability and Past 30-Day Use*, Construct 3 *Perception of Risk of Harm for Alcohol and Drugs*, Construct 4 *Peer Disapproval for Alcohol and Drugs*, Construct 5 *Parental Disapproval for Alcohol and Drugs*, and Construct 6 *Perceived Confidence*. For each construct, mean changes from pre- to post- survey were analyzed for each group pairing (e.g. Sorority 1 and Team 1 or Sorority 2, Team 2, and Team 3), and for each individual sorority and team. See the two tables on the following page for analysis details for all group 2 participants. Table 8 provides detailed analyses for the intervention group, while Table 9 offers details for the control group.

Table 8

Sorority 1 and Team 1: Quantitative Mean Score Comparisons

Construct # and Survey Items (Questions 10 – 29)	Proposed Analyses (All mean changes from pre- to post- survey)		
	Sorority 1 &Team 1	Sorority 1	Team 1
2 – Alc Drug Avail (Q10 – Q14)	Total availability scores	Total availability scores	Total availability scores
2 – 30-day substance (Q15 – Q 18)	Total past 30-day use scores	Total past 30-day use scores	Total past 30-day use scores
3 – Perception of Risk of Harm (Q 19 – 21)	Total risk of harm scores	Total risk of harm scores	Total risk of harm scores
4 – Peer Disapproval (Q 22 – 24)	Total peer disapproval scores	Total peer disapproval scores	Total peer disapproval scores
5 – Parent Disapproval (Q 25 – 27)	Total parental disapproval scores	Total parental disapproval scores	Total parental disapproval scores
6 – Perceived Confidence (Q 28-29)	Total perceived confidence scores	Total perceived confidence scores	Total perceived confidence scores

Table 9

Sorority 2, Team 2, and Team 3: Quantitative Mean Score Comparisons

Construct # and Survey Items (Questions 10 – 29)	Proposed Analyses (All mean changes from pre to post survey)			
	Sorority 2, Team 2 &Team 3	Sorority 2	Team 2	Team 3
2 – Alc Drug Avail (Q10 – Q14)	Total availability scores	Total availability scores	Total availability scores	Total availability scores
2 – 30-day substance (Q15 – Q 18)	Total past 30-day use scores	Total past 30-day use scores	Total past 30-day use scores	Total past 30-day use scores
3 – Perception of Risk of Harm (Q 19 – 21)	Total risk of harm scores	Total risk of harm scores	Total risk of harm scores	Total risk of harm scores
4 – Peer Disapproval (Q 22 – 24)	Total peer disapproval scores	Total peer disapproval scores	Total peer disapproval scores	Total peer disapproval scores
5 – Parent Disapproval (Q 25 – 27)	Total parental disapproval scores	Total parental disapproval scores	Total parental disapproval scores	Total parental disapproval scores
6 – Perceived Confidence (Q 28-29)	Total perceived confidence scores	Total perceived confidence scores	Total perceived confidence scores	Total perceived confidence scores

Theory of Planned Behavior (TPB) instrument. The quantitative data collected through the TPB instrument was assessed to determine the impact of the health ambassador training curriculum, as well as measure the change in health ambassador beliefs regarding individual and group ambassador attitudes, norms, and levels of perceived control in serving as a peer leader.

The degree of change along with the effectiveness of the health ambassador trainings, helped address RQ 1 and RQ 3, which focus on developing an understanding of individual and collective efficacy of the health ambassadors. Like the college student survey analysis above, data from both the pre- and post- surveys was inputted into Statistical Package for Social Sciences (SPSS). Data cleaning and analysis occurred during the following week and a half to two weeks. For each of the four instrument constructs and all constructs together, descriptive statistics (mean, median, standard deviation) were calculated and compared between the health ambassadors to look for differences between the health ambassador pre- and post- instrument scores. A paired samples t–test was conducted using SPSS, to determine how student ambassadors feel about serving as student leaders and disseminating alcohol, marijuana, and prescription drug information to Greeks and athletes. See Table 10 for analysis details for group participants (health ambassadors).

Table 10

Health Ambassadors: Quantitative Mean Score Comparisons

Construct # and Survey Items (Statements 1 – 17)	Proposed Analyses (All mean changes from pre- to post- survey)
1 – Attitude (Q 1 – 3)	Total attitude scores
2 – Subjective Norm (Q 4 – 6)	Total subjective norm scores
3 – Perceived Beh. Control (Q 7 – 14)	Total perceived behavioral control scores
4 – Intention (Q 15 – 17)	Total intention scores
1-4 – All constructs (Q 1-17)	Total of all constructs

Researcher's Subjectivity and Positioning

As an undergraduate faculty member and the director of the Health Ambassador program, I am personally connected to many of the Group 1 and Group 2 participants. For instance, many health ambassadors and student athletes enroll in my undergraduate classes. I also serve as the faculty advisor to Sorority 1 and have worked closely for the past three years with Sorority 2. As such, my subjectivity in this research may have caused my participants to feel pressured to answer interview or survey questions to align to what I am researching or change their behavior during the interviews, observations, or workshops. This behavior change may have happened to appease my study goals or to maintain our existing relationship. As a practitioner, I am keenly aware of the potential power dynamic throughout this research and have designed mechanisms throughout (e.g.

co-created health and leadership materials, attending only three workshops, IRB procedures to maintain confidentiality, etc.) to encourage participation and inclusiveness.

Validity and Validation Strategies

Qualitative

On page 207 of his 2007 text, Creswell defined validation as "a distinct strength of qualitative research in that the account made through extensive time spent in the field, the detailed thick description, and the closeness of the researcher to the participants in the study all add to the value or accuracy of the study" (Creswell, 2007). Throughout his work, Creswell used validation and accuracy synonymously and identified several validation strategies for qualitative researchers to utilize. In this research, I employed two validation strategies. The first validation strategy within this research was what Creswell calls "Prolonged engagement and persistent observation". This idea is all about using research to build relationships. In this case, my research served to enhance existing relationships and continue to build some trust and collaboration. Consistently working with these health ambassadors every day allows me to co-construct what this study is all about. I can constantly assess study progress, address research questions, and have embedded myself into the research culture. By interviewing and observing, I can view this program using a different lens.

The second strategy I used was "Peer review and debriefing". As a faculty member, I have wonderful colleagues that I respect and admire. They share a similar quest for knowledge and are always publishing and sharing research. I used my colleagues as critical reviewers during this research process. They provided insight, feedback, and kept me honest as a researcher. I incorporated peer review sessions, so they

could ask questions and offer helpful criticism. This process has also provided me with unique perspectives and opinions I may not have considered in the first place.

Quantitative

My study participants completed identical pre- and post- tests pertaining to college student behavior. As a result, they may use the testing process to learn how to positively report a change in behavior rather than changing their behavior. This could result in testing and pretest sensitization. Smith and Glass (1987) describe overcoming pretest sensitization by "measuring the dependent variable before and after introducing the treatment to research subjects" (Smith & Glass, 1987, p. 128). To minimize this threat and maximize validity, I entertained two options. First, I considered not pre-test the control groups, so these participants were not affected by the pre-test when they complete the post-test. I selected not to do this. Instead, I relied on *instrumentation* to maximize validity. This threat to validity occurs when the method of measuring the dependent variable changes from one group or time to the next" (Smith & Glass, 1987, p. 129). A validation strategy was to standardize my research process. To accomplish this, I employed an identical process to all participants. This included standardized procedures around consent, testing, data collection, and analysis procedures. I also piloted the survey with some participants for relevancy and accuracy prior to study onset.

I was also cognizant of the importance of the experimenter effect which states "some experimenters, by virtue of charm and energy, may motivate research subjects to perform particularly well" (Smith & Glass, 1987, p. 148) As previously stated, I teach and direct some of my participants and they are around me more frequently than other participants. As such, these participants see my excitement and commitment to

cultivating a culture of wellness on our campus. To remedy this, I focused on the standardization of interactions and procedures. Also, to limit bias in my data collection and analysis, I assigned identification numbers, so I did not know the identity or responses of the participants.

Chapter 4

RESULTS

Understanding and interpreting the results of this study has been rooted within an integrated and multifaceted process of quantitative and qualitative data analysis. Within this study, various sets of analytical strategies have been incorporated, and its results are presented in two parts, to demonstrate the confluence and collaborative nature of convergent parallel mixed methods research. Two groups, Group 1 and Group 2, participated in this study. Group 1 included those students who participated in the health ambassador program during the 2018-2019 academic year. Group 2 included student representatives from three athletic teams (Team 1, Team 2, and Team 3) and two sororities (Sorority 1 and Sorority 2). Group 2 participants were then divided into two groups, control and intervention. Team 1 and Sorority 1 served as the treatment group, while Team 2, Team 3, and Sorority 2 were the control. The purpose of this study was to better understand the influence of the Health Ambassador program at SUNY Buffalo State College on other students' perceptions, beliefs, and attitudes toward substance use. This study was conducted to conducted to answer the three following research questions:

RQ 1: How and to what extent does implementation of the Health Ambassador (HA) program affect individual student ambassador self-efficacy?

RQ 2: How and to what extent does implementation of the Health Ambassador (HA) intervention affect the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use?

RQ 3: How does the health ambassador program influence the collective efficacy of the health ambassadors?

Quantitative Results

Included in the quantitative results are findings from the College Student Survey and Theory of Planned Behavior Questionnaire. Together, the results from both quantitative instruments address RQ 2: How and to what extent does implementation of the Health Ambassador (HA) intervention affect the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use?

College Student Survey

The College Student Survey was intended to measure Group 2 participants' involvement in dangerous health behaviors and their associated risks with using alcohol, marijuana, and prescription drugs that are not prescribed to them. As noted previously, Group 2 was comprised of an intervention and control group. Below, case summaries for both the intervention and control groups, and differences in Group 2 participant mean scores from multiple Analysis of Variance (ANOVA) tests and paired samples t-tests are discussed.

College student survey reliability. I conducted a reliability analysis, using SPSS software, to measure the internal consistency of the college student survey by calculating a Cronbach's alpha of the overall instrument and for each of its four constructs. This reliability test determined the consistency of participant scores over both the pre-and post- surveys. The constructs analyzed included *Construct 2: 2a-Alcohol and Drug availability and 2b-Past 30-day use, Construct 3: Perception of Risk of Harm for Alcohol and Drugs, Construct 4: Peer Disapproval for Alcohol and Drugs, Construct 5: Parental Disapproval for Alcohol and Drugs, and Construct 6: Perceived Confidence*. The results of the analyses are shown in Table 11 below.

Table 11

College Student Health Survey Estimates of Internal-Consistency: Cronbach Alpha Analysis n=95

Construct	Alpha Coefficient
2a - Alc. Drug Avail (Q10-Q14)	.702
2b - 30-day substance (Q15- Q18)	.635
3 - Perception of Risk of Harm (Q19-21)	.544
4 - Peer Disapproval (Q22-Q24)	.933
5 – Parental Disapproval (Q25-Q27)	.965
6 - Perceived Confidence (Q28-Q29)	.622
7 - All variables	.629

Constructs 4 and *5* proved to be most reliable with a Cronbach α = .965 and 963, respectively. Both scores are in the excellent range (Cronbach α_> .9) on the George and Mallory (2003) alpha coefficient scale. *Constructs 2a, 2b, and 6* reported a reasonably high, yet still acceptable alpha score (α = .702, α = .635, α = .632). Only *Construct 3, Perception of Risk for Alcohol and Drugs* with a Cronbach alpha score of α = .544, had a questionable score according to the alpha coefficient scale. However, when we remove question 15 regarding past 30-day marijuana use (α = .554), the construct Cronbach Alpha score increases to α = .695. Removing question 15 from the survey would take away from the overall purpose of the college student survey as it would lessen the importance of perceived risk in student decision making. As such, the question was left in. Finally, all variables together had an alpha α = .629.

Descriptive and case summaries. At the onset of the study, descriptive and case summaries were run for all Group 2 participants who completed the 29-item pre-college-student survey in November 2018. Group 2 participants were undergraduate students recruited from two sororities and three athletic teams. These students were then divided into two groups, an intervention and control. The intervention group included the thirty-four participating students from Sorority 1 (n=17) and Team 1 (n=17). The control group was comprised of ninety-five students from Sorority 1 (n=21), Team 1 (n=18), and Team 3 (n=72). Descriptive and case summaries were run to test for potential relationships or differences between categorical variables within the intervention and control groups.

Table 12 presents Group 2 participant characteristics (N=129) at the start of the study for the nine demographic questions (Q1-Q9).

Table 12

Group 2 Participants: Survey Response Pre-Score Frequencies N=129

Demographic Questions	Intervention Group (n=34)		Control Group (n=95)		Test of differences between groups
	n	%	N	%	p
Average age	20	n/a	19	n/a	.169
Gender					
Male	17	50	56	59	.110
Female	17	50	39	41	
Race					
White	21	62	55	58	
African American	7	20	30	33	
Asian American	1	3	1	1	.070
Latino/a	2	6	4	4	
Native American	2	6	1	1	
Not specified	1	3	3	3	
Course Credits					
Freshman (0-29)	6	18	33	36	
Sophomore (30-59)	10	29	21	22	.022**
Junior (60-90)	7	21	27	28	
Senior (90-120)	11	32	13	14	
Live on campus					
Yes:	10	29	47	49	.014**
No:	24	71	48	51	

** p< 0.05, *** p< 0.01, p = significance levels for an Independent Samples T-test

Overall, several key similarities and differences were identified. The average participant age within the intervention group was 20 years old, while the control group reported a slighter average age of 19 years old.

Regarding the difference between the overall number of experimental and control group participants, athletic team recruitment from Team 3 resulted in the control group having a higher number of participants and higher number of males. The difference of 35 males in the control group could drive some aspects of alcohol, tobacco, and other drug (ATOD) use due to increased propensity for males to report higher substance use rates than their female counterparts. Additionally, there was also a large difference in the number of males that participated between the intervention and control groups. Overall, 35 more males in the control group (n=52) completed both pre- and post-college student surveys compared to the intervention group (n=17).

Of all participants, 57% were male and 43% were female. These percentages were different for the intervention and control groups. For instance, in the intervention group the number and percentages of identified males and females was equal, with 50% female and 50% male. In the control group, 59% of participants identified as male while 41% reported being female. Regarding ethnicity, both groups were diverse and fairly similar. The experimental group reported that 62% of their participants were White, 20% were African American, 6% were Latino, 6% were Native American, 3% were Asian American, and 3% selected not to answer. Similarly, the control group reported that 58% of their participants were White, 33% were African American, 4% were Latino, 1% were Native American, 1% were Asian American, and 3% selected not to answer.

Statistically significant differences between groups at the $p<.05$ level was noted regarding college credits and campus residency. Of those intervention group participants, 18% were freshman, 29% were sophomores, 21% were juniors, and 32% were seniors. However, when reviewing the control group, the distribution of course credits was

inverse to that of the intervention group. These numbers were nearly reversed within the control group participants. Of those participants 36% were freshman, 22% were sophomores, 28% were juniors, and 14% were seniors. Additionally, the number and percentages of intervention and control group participants who lived on campus were very different. For instance, 29% of intervention group participants reported living on campus while 71% did not. This breakdown was different than the control group whose participants responses were closer together with 49% of participants living on campus and 51% living off campus.

Participant ages were also comparable to one another. For instance, 25% (n=35) were 18 years old, 27% (n=36) were 19 years old, 19% (n=27) were 20 years old, and 29% reported being 21 years of age or older. Among the intervention group, 40% of participants were 18 or 19 years of age, while the remaining 60% were twenty years of age or older. These percentages differ somewhat from the control group who reported 51% being 18 or 19 and 49% being 20 or older.

Analysis of variance (ANOVA) test. Table 13 presents Group 2 participant characteristics (N=129) for the nineteen behavior questions (Q10-Q29) representing *Construct 2: Alcohol and Drug availability and Past 30-day use, Construct 3: Perception of Risk of Harm for Alcohol and Drugs, Construct 4: Peer Disapproval for Alcohol and Drugs, Construct 5: Parental Disapproval for Alcohol and Drugs, and Construct 6: Perceived Confidence*. At the study initiation, we can determine similarities and differences between participant groups. Multiple one-way analysis of variance (ANOVA) tests were conducted to determine whether any of the differences between the intervention

and control groups were statistically significant. ANOVA results are presented in table 13 and throughout the quantitative results section.

Table 13

Group 2 Participants: Survey Response Pre-Score Frequencies – Health Behavior n=129

Health Behavior Survey Items Q 10 – Q 29	Intervention Sorority 1 &Team 1 (n=34)		Control Sorority 2, Team 2, & Team 3 (n=95)		Analyses ANOVA
	Mean	SD	Mean	SD	p
Q10. Access to Rx pain	2.14	.822	2.56	1.109	.034**
Q11. Access to Rx stim	1.78	.886	2.39	1.190	.006**
Q12. Access to Rx tranq.	2.08	.983	1.90	1.167	.409
Q13. Access to Marijuana	1.46	.803	1.42	.823	.789
Q14. Access to Alcohol	1.24	.548	1.46	1.008	.224
Q15. Past 30 day – Alcohol	2.97	1.258	1.84	1.153	.000***
Q16. Past 30 day – Marijuana	1.95	1.490	1.54	1.153	.095
Q17. 30 day - Binge Drink	2.08	1.064	1.45	.825	.000***
Q18. Past 30 day – Rx Drugs	1.27	.652	2.20	1.106	.000***
Q19. Risk of Harm – Alcohol	2.49	.901	2.03	.934	.011**
Q20. Risk of Harm – Marijuana	1.76	.895	2.60	1.166	.000***
Q21. Risk of Harm – Rx Drugs	3.22	.947	3.07	.921	.406
Q22. Peer Appr. – Alcohol	2.92	.954	2.72	.821	.225
Q23. Peer Appr. – Marijuana	2.32	.944	3.17	.898	.000***
Q24. Peer Appr. – Rx drugs	3.30	.845	3.51	.640	.107
Q25. Parent Appr. – Binge Drink	3.51	.804	3.57	.636	.651
Q26. Parent Appr. – Marijuana	3.27	.902	3.59	.601	.017**
Q27. Parent Appr. – Rx Drugs	3.73	.652	3.86	.372	.131
Q28. Health Decision Confidence	3.16	.898	3.50	.698	.019**
Q29. Health Confidence Refusal	3.22	.917	3.54	.738	.032**

** $p < 0.05$, *** $p < 0.01$, p = significance levels

Initially, all five of questions (Q10-Q14) in *Construct 2a Access to Drugs and Alcohol*, were scored using a five-point Likert scale ranging from "Very Easy" (1) to "Very Difficult" (5). The scores of the participants in the intervention group averaged 2.08 or lower signifying prescription painkillers, stimulants, tranquilizers, marijuana, and alcohol, were on average "very easy or "somewhat easy to obtain. Significant differences were reported for two of the five construct 2a questions during the first administration of the survey. Access to prescription painkillers (Q11) and prescription stimulants (Q10) were reported as being higher in the control group at the $p<.01$ and $p<.05$ levels of statistically significance, respectively. The control group averaged 2.5 or lower for both Q 10 and Q 11, signifying these participants believed prescription painkillers and stimulants were "somewhat difficult" to acquire. Each of the groups had three out five scores under 2.0, with both viewing marijuana and alcohol as the easiest to obtain. Again, a score of 2 suggests that the intervention group participants felt that drugs and alcohol were "somewhat easy" to obtain. While both groups reported a score of almost 2, "somewhat easy", the control group (1.94) believed alcohol and drugs to be slightly more difficult to obtain than the intervention group (1.74).

Past 30 days use of drugs and alcohol (Q 15-Q 18) was initially different between the two groups. These four questions were scored on a six-point Likert scale ranging from (1) – 0 days to (6) – 20 – 30 days. A one-way analysis of variance (ANOVA) was conducted to determine any significant differences between the pre-college student scores for the Q15 – Q18. Three of the four questions in construct 2b reported significant differences between the intervention and control groups at the $p <.01$ level. Consistent with this finding, the average intervention group score was higher than the average for

the control group for three of the four questions in this construct. Specifically, intervention group participants, on average with a score of 2.97 consumed more alcohol than the average control group score of 1.84. The difference of 1.13 between intervention and control groups was found to be significant at the $p < .00$ level. The average intervention group participant was consuming alcohol anywhere from 3 – 5 days per week, while those in the control group were drinking 2 days or less per week.

This was also the case with past 30-day marijuana use. The intervention group reported a mean score of 2, suggesting that intervention group participants smoked marijuana at least two of the past 30 days. In comparison, the control group reported a mean of 1.54 suggesting they smoked at least one day during the past month. It is important to note that each of the three questions have a higher standard deviation suggesting that the participant data is not as close to the mean and spread over a greater range of values. Of the four construct 2b questions, this was the only question that did not report a statistically significant difference in past 30-day marijuana use among intervention and control group participants ($p<.095$).

Additionally, Q17 – Past 30-day Binge Drinking and Q18 – Past 30-day use of prescription drugs (non-doctor prescribed) also yielded significant differences between intervention and control group pre-college student survey responses. For instance, the average scores for the Q17 past 30-day binge drinking questions were 2.08 for the intervention group and 1.45 for the control group. This difference was significant at the $p <.01$ level. The intervention score of 2.08 signifies an average intervention participant engaged in binge drinking as few as one and as many as two days during the past month. In comparison, the control group participants reported binge drinking as few as zero days.

The differences in mean scores between the intervention and control groups were also significant at the p >.01 level. The control group used more prescription drugs that were not prescribed to them. On average, control group participants were taking prescription drugs non-medically between two and three days per month. The intervention group participants reported much less use, averaging less than a day of use per month. Overall, with three significant differences reported within the intervention and control groups, the Q10-Q14 findings suggest variability in how the participants were using drugs and alcohol.

Three perception of risk of harm questions were also asked. Both groups reported moderate to great risk associated with using prescription drugs that were not prescribed to them. Also, the differences in perception of harm between groups for alcohol (Q 19) and marijuana (Q 20) were statistically significant at the p<.01 and p<.05 levels. Both groups reported "little to no risk" or "slight risk" with drinking alcohol and smoking marijuana. The greatest differences between intervention and control groups was reported in marijuana risk. This difference was significant at ($p < 0.01$). When asked about the risk associated with smoking marijuana once or twice a week, the average intervention participants reported ($\bar{x} = 1.76$), signifying "little to no risk". This was dissimilar to the average control group response ($\bar{x} = 2.60$) who believed smoking marijuana once or twice a week was between a "slight risk and moderate risk".

Differences also occurred in the level of approval the experimental and control participants believed they would receive from their peers (Q 23) and parents (Q 26) for using marijuana. These findings were both statistically significant at the p<.01 level. For instance, in Q23, the experimental group participants believed their friends would

"approve" of them using marijuana once or twice a week. Conversely, control groups participants reported the opposite believing their friends would "disapprove". Also, the intervention group reported slightly higher peer influence regarding alcohol, while the control group believed their peers would disapprove more of them using marijuana. Additionally, participants within both groups believed their parents and peers would strongly disapprove of them using marijuana. Finally, significant differences at the $p<.05$ level were reported between groups for Q28 and Q29. The control group reported more confidence in making healthy discussions and being able to refuse drugs and alcohol when offered.

Paired samples t-tests. Several paired sample t-tests were conducted using SPSS, following the post survey administration to determine mean changes from pre- to post-survey for five survey constructs. These constructs have been analyzed for (1) the intervention group (Sorority 1 and Team 1) and the (3) the control group (Sorority 2, Team 2, and Team 3). For each construct, mean changes from pre- to post- survey were analyzed within each individual sorority and team within their respective grouping. The results will be presented throughout several tables. In addition to changes in mean scores for all Group 2 participants. Results are included within paired samples t-test results and are labeled throughout the chapter.

Initially, a paired samples t-test was conducted to compare mean changes between intervention and control group participants. See table 14.

Table 14

All Group 2 Participants: Quantitative Mean Score Differences Within Group Pre- to Post- in Survey Constructs N=129

	Intervention Group (Team 1, Sorority 1) (n=34)		Control Group (Team 2, 3, Sorority 2) (n=95)		Diff. between groups
Construct Pair	Mean	p	Mean	p	p
2a - Alc/Drug Availability	.159	.104	.084	.593	.419
2b - 30-day substance	-.262	.036*	-.094	.270	.315
3 - Perception of Risk	.029	.629	.040	.879	.309
4 - Peer Disapproval	.020	.711	.032	.831	.263
5 - Parental Disapproval	.029	.475	.020	.820	.223
6 - Perceived Confidence	.279	.026*	.068	.147	.403

** p< 0.05, *** p< 0.01, p = significance levels

Neither group reported any decreases among constructs that were statistically significant at the $p < .01$ level. However, two of the changes among constructs in the intervention group were statistically significant at $p < .05$ level, signifying that these findings represent 95% certainty that these changes did not occur by chance. The two constructs with statistically significant changes were 2b - 30-day substance ($p < .036$) and 6 - Perceived Confidence ($p < .026$). Within the intervention group, on average 30-day use decreased from participants using drugs and alcohol two days per month to one or zero days per month.

If we compare individual intervention and control group means in Table 15, we see additional differences in participant health behavior between the groups. For instance, the mean scores differences between the intervention and control groups were statically significant at the $p<.01$ level for three of the four construct questions. These findings are further explained in Table 15 and Table 16.

Table 15

Group 2 Participants: Survey Response Pre- and Post- Score Frequencies by Grouping (Past 30-day use – Alcohol, Prescription Drugs, and Marijuana Construct 2b) N=129

	Intervention Group				Control Group				Diff. pre-post means
	Pre-Score		Post-Score		Pre-Score		Post-Score		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	p
Q15. Alcohol	2.97	1.325	2.41	1.234	1.84	1.153	2.25	1.392	.000***
Q16. Painkillers	1.27	.652	1.18	.635	1.54	1.153	1.15	.538	.095
Q17. Binge Dr.	2.08	1.064	1.71	.719	1.45	.845	1.75	1.100	.000***
Q18. Marijuana	1.76	.635	1.60	1.287	2.20	1.106	1.55	1.328	.000***

** p< 0.05, *** p< 0.01, p = significance levels

Three statistically significant differences (p<.01) emerged between the intervention and control groups when reviewing the changes in their pre- to post- mean scores for *Construct 2b Past 30-day use – Alcohol, Prescription Drugs, and Marijuana* several. The three statistically significant difference between groups were reported for Q15 past 30-day alcohol, Q17 past 30-day binge drinking, and Q18 past 30-day marijuana use. It is important to note that the intervention group reported decreases in each of the four construct questions (Q15 – Q18) while the control group reported decreases in painkiller (Q16) and marijuana (Q18). From pre- to post- survey, drinking (Q15) among the intervention group declined from 2.97 to 2.51. This mean score of 2.51 signifies that the average intervention group participant reported drinking between 2 and 3 days during the past month.

For comparison, control group participants increased their past thirty day use from pre- to post- survey. It is important to note that past 30-day alcohol use reported the highest use in both groups, with each group reporting that participating students consumed alcohol between two and three days during the past month.

Additionally, intervention group participants decreased their amount of binge drinking (Q 17) from 2.08 to 1.75 from pre- to post- survey signifying that they drank excessively on two or fewer occasions during the past 30 day. Similar to past 30-day alcohol use, the control group increased the number of days they binge drank. Finally, statistically significant differences in mean scores from pre- to post- survey was also found in marijuana for both intervention and control groups. Both the intervention and control groups reported decreases, yet the control group reported a greater decline. Both groups had similar post- survey mean scores (1.60 intervention, 1.55 control) signifying that these participants were smoking marijuana about one day during the past 30 days. This was the only question where the only intervention group post score that had a higher mean score than the control group.

According to Table 16, from pre-survey to post-survey, use of prescription painkiller, alcohol, and binge drinking all decreased nearly half a point on the five-point Likert scale. Specifically, within the intervention group, 56% of participants reported a decrease in past 30-day alcohol use, past 30-day painkiller use decreased 27%, and past 30-day binge drinking declined 32%. In comparison, the control group also reported a decrease within construct 2b, although the difference was nearly three times less than the intervention group. Also, only 30-day use of marijuana declined, while 30-day use of alcohol and binge drinking increased. Further, of control group participants, 38%

increased 30-day use of alcohol, 28% reported an increase in binge drinking, while 16% increased past 30-day use of prescription painkillers.

Table 16

Group 2 Participants: Changes in Participant 30-Day Substance Use (Construct 2b) by Percentage in N=129)

	Intervention Group (Team 1 and Sorority 1) (n=34)			Control Group (Team 2, Team 3, Sorority 2) (n=95)		
Construct Items	% Decrease (n)	% Same (n)	% Increase (n)	% Decrease (n)	% Same (n)	% Increase (n)
Q15. Alcohol 30-day pre-post difference	56 (n=19)	30 (n=11)	12 (n=4)	20 (n=19)	42 (n=40)	38 (n=22)
Q16. Painkillers 30-day pre-post difference	27 (n=9)	59 (n=20)	15 (n=5)	24 (n=24)	60 (n=58)	16 (n=13)
Q17. Binge Drinking 30-day pre-post difference	32 (n=15)	38 (n=13)	17 (n=6)	19 (n=14)	58 (n=55)	27 (n=26)
Q18. Marijuana 30-day pre-post difference	15 (n=7)	70 (=23)	9 (n=3)	22 (n=54)	37 (n=35)	6 (n=6)

Table 17 presents differences between from the pre- to post- survey for the two Construct 6 questions. For both construct questions, the intervention group reported increases in mean scores, while the control group declined. One of the two questions,

Q29 reported statistically significant differences in means scores from pre- to post- at the $p<.01$ level. Both of these questions inquired about an individual's perceived confidence around making positive health decisions (Q 28) and refusing drugs and alcohol (Q 29). For Q 28, the intervention group improved their mean score by one half of a point (3.22 pre, 3.74 post). The score of 3.74 signifies that the average intervention group participant was very confident in their ability to make healthy positive decisions in their life. Contrariwise, the control group (3.50) initially reported a higher level of confidence than the intervention group (3.22). However, the control group reported a decline in their confidence level around healthy decision making. Further, as previously stated, Q 29 reported statistically significant differences between mean scores for the intervention and control group. Specifically, the intervention group increased their mean scores from 2.97 to 3.65 from pre- to post- signifying that the average intervention participant had increased their confidence levels around refusing drugs and alcohol from "somewhat confident" to "confident". Like Q 28, the control group reported a higher pre-score (3.54) than the intervention group (2.97) yet declined in their average post-scores. These results are further explained in Table 18.

Table 17

Group 2 Participants: Survey Response Pre- and Post- Score Frequencies by Grouping (Construct 6 Perceived Confidence) N=129

	Intervention Group				Control Group				
	Pre-Score		Post-Score		Pre-Score		Post-Score		Diff. pre-post means p
Construct Items	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Q28. Health Confidence	3.22	.917	3.74	.448	3.50	.698	3.29	.586	.208
Q29. Health Refusal	2.97	.652	3.65	.635	3.54	.738	3.10	.586	.016**

** p< 0.05, *** p< 0.01, p = significance levels using independent sample T-test

Table 18 presents differences from the pre- to post- survey for the two Construct 6 questions. 29% of intervention group participants reported an increase in their ability to make healthier decisions, while 33% reported an increase in their drug and alcohol refusal skills. It is important to note, in each confidence question, over 50% of participants reported the same, and fewer than 12% of intervention group participants reported a decrease in overall confidence. Similarly, 26% of control group participants reported an increase in healthy decision making. Nearly half (47%) of control group participants remained the same, while 27% reported an increase in confidence around healthy decision making. Regarding drug and alcohol refusal skills, 57% of control group participants stated the same, 13% decreased, and 25% reported an increase.

Table 18

Group 2 Participants: Changes in Participant Perceived Confidence (Construct 6) by Percentage N=129

	Intervention Group (Team 1 and Sorority 1) (n=34)			Control Group (Team 2, Team 3, Sorority 2) (n=95)		
Construct Items	% Decrease (n)	% Same (n)	% Increase (n)	% Decrease (n)	% Same (n)	% Increase (n)
Q28. Health Confidence pre-post difference	12 (n=4)	51 (n=19)	29 (n=11)	23 (n=24)	47 (n=45)	27 (n=28)
Q29. Health Refusal pre-post difference	18 (n=6)	50 (n=17)	33 (n=11)	13 (n=17)	57 (n=54)	25 (n=24)

In reviewing the changes in pre- to post- mean scores within the intervention and control groups, two additional significant differences ($p<.01$) are reported in Table 19. The first statistically significant difference was found in Q 12 which asked about how easy prescription tranquilizers were to obtain. Experimental group participants reported that prescription tranquilizers were "somewhat easy" to obtain on both the pre- and post – surveys. Control group participants initially reported that prescription tranquilizers were "very easy" to obtain. However, following the post- survey administration, control group participants believed prescription tranquilizers to be "somewhat easy" to "somewhat" difficult to acquire.

Lastly, the second statistical difference between the intervention and control groups was reported in Q 20. This question asked about the risk associated with smoking marijuana once or twice of week. Initially, following the pre-survey administration, the control group reported much greater risk with smoking marijuana once or twice a week. Specifically, the pre-test mean score of the control group was 2.60 suggesting the average control group participant believed that smoking marijuana once or twice a week presented a "slight risk" to "moderate risk". Conversely, the intervention group believed that there was "little to no risk" with smoking marijuana once or twice per week. Following the post-survey, the control group believed that smoking marijuana once or twice a week was less risky (1.83), while the intervention group slightly increased their level of risk (2.15).

Table 19

Group 2 Participants: Survey Response Pre- and Post- Score Frequencies by Grouping (Q 12, Q 20) n=129

	Intervention Group				Control Group				
	Pre-Survey		Post-Survey		Pre-Survey		Post-Survey		Diff. pre-post means
Question	Mean	SD	Mean	SD	Mean	SD	Mean	SD	p
Q12. Rx Tranq.	2.08	.983	2.15	1.004	1.90	1.167	2.47	1.219	.005**
Q20. Marijuana Risk	1.76	.895	1.89	.977	2.60	1.166	1.83	.930	.001***

** p< 0.05, *** p< 0.01, p = significance levels using independent sample T-test

In addressing RQ 2, results from the college student survey were able to provide additional insight into influence of the health ambassador program on perceptions, beliefs, and attitudes of Greeks and athletes toward substance use. Specifically, the college student survey showed that health ambassadors were able to positively contribute to a reduction in the participating Greeks and athletes past 30-day use of drugs and alcohol. Further, following the health ambassador intervention, those in the intervention group became more effective at refusing drugs and alcohol from others and were more confident in making healthier choices. These findings are encouraging for the role of peer leadership on college campuses and positively align with the results from the theory of planned behavior questionnaire.

Theory of Planned Behavior (TPB) Questionnaire. Of the two groups in this study, the health ambassadors (Group 1) and members of Greek life and athletics (Group 2), only the health ambassadors completed the theory of planned behavior questionnaire. This 17-item questionnaire used a pre-post format and measured characteristics of individual and collective efficacy of the health ambassadors. As mentioned previously, the health ambassadors are a select group of student leaders who major in one of the three health, nutrition, or dietetic disciplines. Throughout this study, they were trained in several areas of health and leadership and worked collectively to present the health ambassador intervention to participating Greeks and athletes.

At the conclusion of the health ambassador intervention, a paired samples t-test was administered to compare mean changes of Group 1 participants. Thirteen Group 1 participants completed the pre-questionnaire while ten participants took the post-questionnaire. Four of the Group 1 participants completed the pre-questionnaire but

graduated after the Fall 2018 semester and did not complete the post. Further, one participant completed only the post-questionnaire. Thus, nine participants completed both the pre- and post- questionnaires and were included in this analysis. Table 20 presents Group 1 changes in mean scores from post to pre for the four questionnaire constructs and overall 17 item questionnaire. All four constructs and the change in overall questionnaire score reported significant decreases.

Group 1 participants reported significantly significant increase at the $p < .01$ level among *Construct 1 – Attitude, Construct 3 – Subjective Norm, Construct 4 – Intention,* and the total questionnaire score change. The mean change for *Construct 2 – Perceived Behavioral Control* was statistically significant at the $p < .05$ level. These findings represent 99% and 95% certainty that these changes did not occur by chance. In total, Group 1 participants increased 13 points from the pre to post (41 pre to 54 post) in total questionnaire score. This finding translates into greatly improved Group 1 participant attitudes and beliefs around serving as student leaders, presenting health information, and working with other health ambassadors. The change in overall score is better explained by the mean changes throughout each of the four questionnaire constructs.

Table 20

Group 1 Participants: Quantitative Mean Score Differences in Survey Constructs n=9

	Construct Pair	Group 1 Participants (Health Ambassadors) Mean	SD	p
1	All Total (post – pre)	+12.6	11.13752	.006***
2	Attitude (post – pre)	+5.33	3.35410	.001***
3	Perceived Behavioral Control (post – pre)	+3.60	3.84419	.024**
4	Subjective Norm (post – pre)	+2.67	1.80278	.002***
5	Intention (post – pre)	+2.77	3.15348	.001***

** $p<0.05$, *** $p< 0.001$, p = significance levels using independent sample T-test

The Attitude construct was comprised of three questions pertaining to serving as a peer leader and views associated with presenting health information and working with other ambassadors. Each of the three questions was assessed using a seven-point scale ranging from 1 – Pleasant to 7 – Unpleasant. A score of four on this seven-point scale would represent the mid-point and equal "4 - Somewhat pleasant". Overall, Group 1 participant attitude scores increased 5 points on average over the construct questions (Table 20). For instance, construct 2 – Attitude reported the second largest change in mean score with Group 1 participants increasing 5 points from pre to post -questionnaire.

This was the highest mean change for any of the questionnaire constructs and specifics regarding the three construct questions are presented in Table 21. Construct 1, Table 21 presents the means, standard deviations, and test for difference between group means, for each of the three construct questions. In reviewing table 29, initially, each of the three questions had a higher mean and higher standard deviation. All three questions have a standard deviation of 1.38 or greater suggesting high levels of variance within the Group 1 participant answers. This variability in Group 1 responses suggest two things. First, the health ambassadors were much more unsure of themselves as the health ambassador program began. Second, the three questions in Construct 1 Attitude may have posed a threat to validity as the differences in health ambassador answers suggest they were not all reading the questions in the same manner. This variability is not seen in the post-questionnaire as the standard deviations are all .333 and responses are much more tightly aligned to the mean. Also, from pre- to post- administration, the differences between mean scores questions for each of the three construct questions were significant at the $p > .01$.

Table 21

All Group 1 Participants: Quantitative Mean Score Differences in Survey Construct 1 Attitude n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)		Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		Diff. between Group means
Construct Items	Mean	SD	Mean	SD	p
Q1. Serving as a Student Leader	2.38	1.387	1.11	.333	.008**
Q2. Presenting to Greeks and Athletes	3.00	1.871	1.11	.333	.002**
Q3. Presenting with other ambassadors	2.54	1.391	1.11	.333	.004**

** p<0.05, *** p< 0.001, p = significance levels using independent sample T-test

Construct 2 – Subjective Norm contained three questions that assessed Group 1 participant perceptions about how others would approve or disapprove of them providing health and leadership information to Greeks and Athletes. This construct used a seven-point agreement scale ranging from 1 – Agree to 7 – Disagree. Construct 2 had the second highest decrease in mean scores (- 3.56) among questionnaire constructs. On average, Group 1 participants increased their perceived approval score from others of them presenting to Greeks and athletes by three and a half points. The change in participant responses from the pre- to post- survey are presented in Table 22.

Pre-questionnaire results indicated larger variances for Q4 and Q6. As reported earlier, participant scores for each question were not equally distributed. Specifically, question four reported the greatest variance between participant responses, as they are

nearly one standard deviation from the mean. However, during the post-questionnaire testing, two key findings occurred. First, health ambassador scores positively decreased their mean scores for all three questions, resulting in scores with much lower standard deviations. For example, in Q 6, all health ambassadors believed that other students would approve of them presenting health information to Greeks and athletes.

As such, no deviation in answers were reported and the standard deviation was zero. Further, the greatest decrease in mean scores resulted from an increase in other health ambassador approval. From the pre- to post- questionnaire, health ambassadors reported an average increase of over 1, suggesting that the average participant positively increased their agreement of perceived approval over one point on the seven-point agreement scale.

Table 22

All Group 1 Participants: Quantitative Mean Score Differences in Questionnaire Construct 2 Subjective Norm n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)		Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		Diff. pre – post means
Construct Items	Mean	SD	Mean	SD	p
Q4. Ambassador approval	2.15	.987	1.11	.333	.023**
Q5. Family approval	1.38	.506	1.11	.333	.035**
Q6. Student approval	1.69	.751	1.00	.000	.009**

** p<0.05, *** p< 0.01, p = significance levels using independent sample T-test

Initially, in Table 23, when asked about whether other health ambassadors would approve of them presenting health information to Greeks and athletes (Q 4), participating health ambassadors were somewhat unsure as only 2 health ambassadors believed they were supported by other health ambassadors. Conversely, 77% (n=7) of ambassadors stated that they did not feel supported or were unsure if they were supported. This indecision completely changed during the post-questionnaire as all nine health ambassadors reported feeling that other ambassadors would approve of them presenting health material to Greeks and athletes. When asked a similar question regarding their perceived family approval (Q5), during both the pre- and post- questionnaire, all nine health ambassadors reported both feeling completely supported by their family in them serving as a student leader and presenting health information.

Table 23

All Group 1 Participants: Changes in Participant Construct 2 Subjective Norm Scores by Percentage n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)			Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		
Construct Items	% Agree (n)	% Mid (n)	% Disagree (n)	% Agree (n)	% Mid (n)	% Disagree (n)
Q4. Ambassador approval	23 (n=2)	23 (n=2)	54 (n=5)	100 (n=9)	0 (n=0)	0 (n=0)
Q5. Family approval	100 (n=9)	0 (n=0)	0 (n=0)	100 (n=9)	0 (n=0)	0 (n=0)
Q6. Student approval	77 (n=7)	23 (n=2)	0 (n=0)	100 (n=9)	0 (n=0)	0 (n=0)

Finally, Q6 was similar to the other two construct questions in assessing approval about presenting health information to Greeks and Athletes. However, while Q4 and Q5 asked about health ambassador and parental approval, Q6 inquired specifically about other college students. During the pre-questionnaire, 77% of participating ambassadors (n=7) reported perceived support from other students, while the remaining 23%were unsure as to whether they were supported. Yet, 100%of ambassadors (n=9) reported that other students would approve of them presenting health information to Greeks and athletes.

Construct 3 - Perceived Behavioral Control was the largest of the questionnaire and contained eight of the seventeen questions. Of the eight construct questions, six reported statistically significant differences between pre- and post- mean scores at the $p<.01$ level. These mean changes and differences among participant responses are reported throughout Tables 25 - 28. The first two construct questions (Q7 & Q8) reported statistically significant differences in mean scores from pre- to post- questionnaire and inquired about individual and overall group health ambassador confidence in discussing sensitive health topics with Greeks and athletes. For instance, both Q 7 and Q 8 reported decreases in mean scores from pre- to post- questionnaire (See table 24). Yet, a much larger decrease in the differences between participant responses was reported in Q 7 which reported nearly a two-point decrease (-1.89) in over mean score.

Table 24

All Group 1 Participants: Quantitative Mean Score Differences in Survey Construct 3 Perceived Behavioral Control (Q7-Q11) n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)		Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		Diff. pre – post means
Construct Items	Mean	SD	Mean	SD	p
Q7: Confidence sensitive topics	3.00	1.683	1.11	.333	.001***
Q8: Confidence of other ambassadors	2.15	1.405	1.11	.333	.001***
Q9: Difficulty sensitive topics	4.85	1.725	6.00	1.414	.008***
Q10: Content Specialization	2.62	1.325	1.33	.707	.057

** p<0.05, *** p< 0.01, p = significance levels using independent sample T-test

During the pre-questionnaire, health ambassador responses were extremely different from one another, signifying tremendous variance from the mean score of .215. However, all nine ambassador scores were nearly the same during the post-questionnaire. Interestingly, a larger percentage (67% to 44%) of health ambassadors reported a higher confidence level with other health ambassadors presenting health material than themselves. In fact, pre-questionnaire scores for Q7 showed varying levels of agreement.

According to Table 25, of the nine health ambassadors, four believed they were confident enough to present sensitive health information, three were unsure, and the remaining two did not feel confident. However, during the post-questionnaire, all nine health ambassadors agreed that they were confident to discuss sensitive health information to Greeks and athletes. All nine health ambassadors agreed that the other health ambassadors were confident in presenting sensitive health information to Greeks and athletes.

Table 25

All Group 1 Participants: Changes in Participant Construct 3 Perceived Behavioral Control (Q7-Q11) Scores by Percentage n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)			Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		
Construct Items	% Agree (n)	% Mid (n)	% Disagree (n)	% Agree (n)	% Mid (n)	% Disagree (n)
Q7: Confidence sensitive topics	44 (n=4)	33 (n=3)	23 (n=2)	100 (n=9)	0 (n=0)	0 (n=0)
Q8: Confidence of other ambassadors	67 (n=6)	33 (n=3)	0 (n=0)	100 (n=9)	0 (n=0)	0 (n=0)
Q9: Difficulty sensitive topics	77 (n=7)	23 (n=2)	0 (n=0)	100 (n=0)	0 (n=0)	0 (n=0)
Q10: Content Specialization	0 (n=0)	33 (n=3)	67 (n=6)	89 (n=8)	11 (n=1)	0 (n=0)

Questions 9 and 10 asked about the level of difficulty associated with discussing sensitive health topics and assessed how prepared health ambassadors were to provide

peer education. Like the two prior questions, ambassador pre- and post- scores positively changed. Specifically, Q9 was statistically significant at the $p<.01$ level and Q 10 was nearly statistically significant at $p<.057$. In Q9, 77% of health ambassadors initially believed that they would be able to speak about sensitive topics to Greeks and athletes. The remaining two ambassadors reported some uncertainty and confusion with their ability to discuss these topics. Again, all nine health ambassadors believed they could speak about these topics in the post-questionnaire. These may be in part due to the large percentage of health ambassadors who shifted their beliefs and confidence to be prepared enough to present this material as undergraduate students.

Initially, for Q 10, all nine health ambassadors either disagreed (n=6) or were unsure (n=3) of their belief that their undergraduate health curriculum has prepared them to serve as a student leader. However, during the post-test, these numbers greatly increase to eight ambassadors who agree their academic preparation was adequate and one who was unsure. While this change in pre- to post- mean scores was not significant, the overall mean score did decrease from 2.15 to 1.11 suggesting that following the post-questionnaire they believed their academic preparation had positively contributed to them acting as student leaders. According to Table 26, three of the four (Q 11, Q 13, Q 14) remaining construct three questions reported statistically significant differences between pre- and post- mean scores at the $p<.01$ level.

Table 26

All Group 1 Participants: Quantitative Mean Score Differences in Survey Construct 3 Perceived Behavioral Control (Q11-Q14) n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)		Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		Diff. pre – post means
Construct Items	Mean	SD	Mean	SD	p
Q11: Capability sensitive topics	5.77	1.235	6.33	1.658	.002***
Q12: Ambassadors peer lead capability	6.08	1.038	6.78	.441	.052
Q13: Confidence Greeks and athletes	2.31	1.182	1.11	.333	.009***
Q14: Capability Greeks and athletes	6.23	.725	6.78	.441	.001***

** p<0.05, *** p< 0.01, p = significance levels using independent sample T-test

For instance, in the pre-questionnaire when asked if they were capable of discussing sensitive health topics with Greeks and athletes (Q11), 44% of the health ambassadors initially reported that they were not capable or unsure of their ability to discuss these topics with other students. Following the post-questionnaire, 89% (n=8) of health ambassadors believed they were capable of discussing health information with Greeks and athletes. This statistically significant finding is also reflected in the mean score increase from pre- to post- questionnaire from 5.77 to 6.33.

Also, as demonstrated in Table 27, in the pre-questionnaire, when asked if they agreed that health ambassadors would be capable of serving as student leaders and presenting health information (Q12), 67% (n=6) reported that the health ambassadors

would be unable to do so, while three ambassadors were unsure. During the post-questionnaire, the health ambassador responses were drastically different. Eight (89%) of the nine health ambassadors agreed that they were capable to serve as student leaders and present health information. Question 14 asked about confidence in health ambassador ability to provide peer leadership to Greeks and athletes. In both pre- and post-questionnaire responses, all nine health ambassadors believed they were confident enough to serve as student leaders. Yet, their level of confidence was reported at different levels. For instance, the pre-questionnaire responses had a variance of 1.182 suggesting high variability around the mean. In comparison, the standard deviation for post-scores was .333, signifying scores that are closer together and to the mean.

Table 27

All Group 1 Participants: Changes in Participant Scores by Percentage for Q11-Q14 in Construct 3 n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)			Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		
Construct Items	% Agree (n)	% Mid (n)	% Disagree (n)	% Agree (n)	% Mid (n)	% Disagree (n)
Q11: Capability sensitive topics	11 (n=1)	33 (n=3)	56 (n=5)	11 (n=1)	0 (n=0)	89 (n=8)
Q12: Ambassadors peer lead capability	67 (n=6)	3 (n=33)	0 (n=0)	0 (n=0)	0 (n=0)	100 (n=9)
Q13: Confidence Greeks and athletes	91 (n=8)	11 (n=1)	0 (n=0)	100 (n=9)	0 (n=0)	0 (n=0)
Q14: Capability Greeks and athletes	91 (n=8)	11 (n=1)	0 (n=0)	0 (n=0)	0 (n=0)	100 (n=9)

Finally, Tables 28 and 29 present the findings for Construct 4 – Intention. This construct was comprised of three questions and asked about health ambassador expectations on helping other students make better health decisions, and the likelihood of each ambassador to work collaboratively with other health ambassadors to co-create health material. Of the three questions, Q16 reported statistically significant differences from pre- to post- questionnaire at the p<.05 level.

Table 28

All Group 1 Participants: Quantitative Mean Score Differences in Survey Construct 4 Intention n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)		Group 1 Participants (Health Ambassadors) Post Questionnaire (n=9)		Diff. pre – post means
Construct Items	Mean	SD	Mean	SD	p
Q15: Expectations of Greeks athletes	1.92	.641	1.44	.726	.214
Q16: Ambassador training	2.46	1.854	1.00	.000	.017**
Q17: Intention co-creating material	2.00	1.000	1.44	.726	.347

** p<0.05, *** p< 0.01, p = significance levels using independent sample T-test

Question 15 asked about individual health ambassador expectations regarding their ability to positively influence the health and well-being of other college students. During the pre-questionnaire, the health ambassadors' responses differed (Table 28). According to Table 29, over half (54%) reported that did not believe they expected to positively influence other student's health behaviors.

The remaining ambassador expectations were divided between uncertainty (23%) and positive expectation (23%). All health ambassadors stated during both the pre- and post- questionnaires their desire to utilize the material learned during the health ambassador trainings to better serve students. Finally, Q17 asked about health ambassador intentions in working with other ambassadors to co-create health and wellness material. Initial scores showed that nearly three quarters (74%) of health ambassadors intended to work collaboratively with others in developing health and wellness information. During the post-questionnaire, 100% of the health ambassadors intended to work collaboratively.

Table 29

All Group 1 Participants: Changes in Participant Construct 4 Intention Scores by Percentage n=9

	Group 1 Participants (Health Ambassadors) Pre-Questionnaire (n=9)			Group 1 Participants (Health Ambassadors) Post-Questionnaire (n=9)		
Construct Items	% Agree (n)	% Mid (n)	% Disagree (n)	% Agree (n)	% Mid (n)	% Disagree (n)
Q15. Expectations of Greeks athletes	23 (n=2)	23 (n=2)	54 (n=5)	100 (n=9)	0 (n=0)	0 (n=0)
Q16: Ambassador training	100 (n=9)	0 (n=0)	0 (n=0)	100 (n=9)	0 (n=0)	0 (n=0)
Q17: Intention co-creating material	67 (n=6)	0 (n=0)	33 (n=3)	100 (n=9)	0 (n=0)	0 (n=0)

While the college student survey helped to address RQ 2 by capturing the perceptions and behaviors of the participating Greeks and athletes, the findings from the TPB offered insight from the health ambassadors into their perceived effectiveness in serving as student leaders and changing substance use among Greeks and athletes. Following the health ambassador intervention, the health ambassadors reported increases in all four constructs. Specifically, the health ambassadors improved their ability and confidence with serving as student leaders. They became more comfortable and confident presenting information to Greeks and athletes, and reported improvements in trust, teamwork, and developing health and wellness information. These findings can be linked to or at least associated with a decrease in past 30-day use of drugs and alcohol, and the increase in substance use refusal skills reported in the intervention group.

Qualitative Results

Following the five-week health ambassador intervention, I analyzed the qualitative data using the six-step process described in Chapter 3. The qualitative data that was analyzed included two sets of pre- and post- group interviews, five health ambassador training observations, and five health ambassador workshop observations (3 workshops each with Greeks and athletes). The entire process yielded three central findings, each with various associated components. Each of the qualitative findings is associated with one or both of my research questions.[1]

[1] Student interview responses have not been corrected for grammatical errors

Central Finding 1: Positive Change in Health Ambassador Bias of Greek and Athlete Substance Use

Following their experience with the health ambassador intervention, the health ambassadors were able to overcome initial fears and biases toward working with Greeks and athletes. Through improved self-awareness of their own prejudices and beliefs, the health ambassadors became better aligned to the sorority sisters and team members. By engaging with and learning from Greeks and athletes, rather than judging and belittling them, the health ambassadors experienced success presenting health material and serving as peer leaders. This finding is associated with RQ 1.

Initially, I commented in my health ambassador training fieldnotes about difficulties that may result from the health ambassadors struggling to remained unbiased toward Greeks and athletes. For instance, on Thursday October 18th, I described my confusion about the health ambassador perceptions that the athletes and Greeks used alcohol and other drugs at a much higher rate than other college students, commenting, "is this belief derived from college student data, or are there biases among these student groups that lead to a belief that they use alcohol and drugs more frequently?" Prior to the intervention, it became clear that the health ambassadors were not gaining insight from college student data but rather through preconceived biases of substance use among Greeks and athletes. The health ambassadors commented extensively as they described some of these biases. For example, Jones, a health ambassador, commented during a group interview about his perception regarding the reputations and substance use among Greeks and athletes. He affirmed:

> Whenever I hear about Greek life, it's about partying. I feel like Greek life and athletics both have a bad reputation. I think that the perception was like a lot of negative behind it. Especially with Greek organizations hazing just use alcohol and illegal substances.

Through these comments, Jones offered a perspective that resulted solely from other opinions and not personal experience. He presented his negative stance on Greek and athletic substance use by relying on the speculation and conjecture of other students. Though it is unclear as to whether he was open to working with other Greeks and athletes, his comments suggest that he had never worked with a member of a Greek organization or athletic team before and therefore may present misguided biases of either group.

Another health ambassador, Arthur, provided similar biases toward Greeks and athletes, stating "I don't know them but would say 90% of them were dealing with more risky behaviors. That was definitely a huge part of their persona definitely off the field or in regard to being a member of a team or Greek life." In this quotation, Arthur classifies nearly all Greeks and athletes as drug and alcohol users and attributes these risky behaviors to their respective norms and traditions. Like Jones, Arthur did not work with athletes or Greeks, so his opinions and viewpoints were formed primarily through speculation.

Several other health ambassadors mentioned that they believed Greeks and athletes used alcohol and drugs more than other students because of "sorority or team acceptance" and "increased access to these substances." While many of these perceptions referenced various reasons around substance use in Greeks and athletes, they all did so without prior experience working with either student group. For instance, Bennie, a

junior health ambassador expressed the negative portrayal of Greeks and athletes in the media but did have direct interactions working with Greeks or athletes. Further, Frederick, a senior health ambassador was quick to negatively label Greeks and athletes as "partiers" as they are portrayed on television as engaging in a "crazy college life full of drugs and partying and hazing." Collectively, the initial interview comments of the health ambassadors stated an overreliance on the viewpoints and opinions of others about Greeks and athletes. The desire to overcome these biases was overshadowed by limited interaction with either student group or an inability to suspend prior judgment.

However, through their experience with the health ambassador trainings and intervention, the health ambassadors improved their perceptions about substance use among Greeks and were able to decrease their overall biases. Following the health ambassador intervention, Jones provided a strong voice as he expressed a change in viewpoint regarding Greeks and athletes, stating:

> I think after we got the word out and after they realized we weren't judging them, then they can see that it's not all just that the stigma around them. Sometimes they are perceived wrong but it's different when you actually do the workshops with them.

Through these comments, Jones offered a much more positive perspective of Greeks and athletes, expressing his mutual respect and admiration. Jones was able to admit that he was wrong to judge Greeks and athletes and that his assessment of their alcohol and drug use was incorrect. Further, Jones commented on the importance of the peer connection and working collectively with the Greeks and athletes, stating: "You're really seeing them at eye level. That's when we spread the information, we can show them what we are about, and give them new knowledge." He continued to demonstrate a

change in perception as he described the importance of deferring judgment until working with Greeks and athletes, stating “People rarely see them because they don’t try to see them.”

Similarly, Charlotte expressed a change in her beliefs and attitudes towards Greeks and athletes stating, “getting involved changed my mind and changed my perception of things. They do ridiculous amounts of community service and collaborating with these organizations really changed my mind for the positive.” Through her comments, Charlotte was able to describe a new appreciation for the volunteer and service nature within a sorority. She further attributed this change in perceptions to the opportunity for peer engagement during the health ambassador intervention, stating “I learned they did not live up to that negative stereotype. And I feel like it's really important that we reached out to Greeks and athletes because not all organizations focus on drinking. My beliefs have changed.” I was able to observe this change in Charlotte during an April 11th presentation on marijuana prevention to Sorority 1. Charlotte was presenting national marijuana use data on the differences between perceived and actual college student use. This survey asked participating college students about alcohol and drug use within the past 30 days. Before revealing the data, Charlotte asked the group to guess the percentage of college students who had reported marijuana use over the past 30 days. Almost in unison, the entire sorority shouted, “almost everyone uses marijuana.” Charlotte then provided the actual data and the percentage of college students who reported marijuana use was much smaller than what the sorority had thought. The sisters expressed confusion stating, “that is what you are supposed to do in college, and it is a rite of passage.” I then overheard a participant say “I had no idea college students used

marijuana so infrequently. I thought they used it so much more." Charlotte was able to use the confusion between sorority sisters as an opportunity to develop rapport and display leadership, stating "just because there are stigmas, we do not have to feed into them." In an instant, by using the word "we", I was able to observe Charlotte dissolve any initial uneasiness between the health ambassadors and the sorority. Her ability to navigate through a difficult discussion by listen objectively and offering input without judgement demonstrated how her biases toward Greeks and athletes had positively changed.

Further, I observed Leah grow as I watched her interacting with Team 1 during an April 11th presentation on Binge Drinking prevention. Leah led a discussion on the biases associated with athletes and drinking. Initially, she began to talk down to them affirming that the culture of athletics on campus is one of high drug and alcohol use. She further discussed how some teams are known specifically on campus as partiers. She was not pointing any fingers but implied that drinking and drug use was a part of every team. Yet, when Leah asked specifically about their team culture many athletes became upset. They stressed that their team philosophy was centered on teamwork and winning games. They were not about drugs and alcohol. Leah seemed somewhat shocked by their responses and began to engage more with the athletes, asking them to explain further. Many of the athletes believed that other athletes would reduce their heavy drinking if they understood its negative impact on their athletic performance. The athletes continued to emphasize that with classes, practices, games, and part-time jobs, they had little to no time to participate in alcohol or drugs. Leah seemed to soften, and was openly apologetic to the team members, stating, "I had no idea that the life of a college athlete was so

complicated." Rather than become upset, the athletes expressed gratitude that she was able to see them differently. As the training continued, Leah took a much more participatory approach and was more willing to speak about their issues. During a group interview, Leah described greater admiration for the tremendous complexities that athletes and Greeks encountered throughout their college experience. She stated:

> After working with sororities more I gained a better understanding of their day to day struggles as people and not just my preconceived notions of who they might be. So that kind of goes without saying for the athletes too they have to juggle a lot. And I wasn't as aware of that prior to being an ambassador.

Through these comments, Leah was able to use her experience within the health ambassador program to better recognize and appreciate differences in others and expressed her gratitude for the opportunity to overcome her initial biases.

While preconceived notions and negative biases with Greek and athletic substance use were harbored early on among health ambassadors, the health ambassador intervention served as a vehicle of change. Following the intervention, the health ambassadors no longer viewed their peers as only participating in hazardous health behaviors. Instead, the traditions, norms, and pressures within Greek life and athletics were recognized and supported. Through engagement and shared learning, the health ambassadors were able to develop meaningful relationships with those students they were serving. These experiences afforded the opportunity for both the health ambassadors and participating Greeks and athletes to understand one another and develop unified strategies and approaches to improve health on campus.

Central Finding 2: Increased Individual Efficacy.

Through the participatory-based and specialized design of the health ambassador program and five-week intervention, participating ambassadors reported improvements in their overall individual self-efficacy. Central finding 2 was supported through evidence derived from the following four themes: (1) Overcoming barriers, (2) Improved confidence due to program implementation, (3) Peer connection, and (4) Faculty and program leadership. This finding is associated with RQ 1.

Theme 1: Self-efficacy positively increased by overcoming barriers. As the health ambassadors continued through the program and health intervention, several social barriers were identified. These social barriers included perceived pressures from being held to a higher standard as a student leader and a fear of not appearing credible to other Greeks and athletes.

For instance, Jones and Charlotte offered comments on the initial difficulties they experienced with being held to a higher standard as a health ambassador. During the pre-group interview on October 30th, Jones commented, "other students see us and know who we are, this makes it scary sometimes." He further expressed some of the challenges that result from presenting the proper health information in a college environment that is conducive to students using drugs and alcohol commenting, "but just to be an environment that is so saturated with drinking and you it's kind of heart stopping how much we have to overcome." Finally, he described the importance of providing relevant and correct information to other students: "It's pressure to share the right information. We want to help students and we want to make sure what we are saying is helpful." Through his comments, Jones identified several barriers to his success and the success of

the health ambassador program overall. Despite his concern, these comments offered opportunities for leadership and improved self-development for himself and other peers.

Charlotte also reported initial difficulties with being held to a higher degree as a health ambassador and sorority president commenting, “It's realizing that you are the face of the campus and that people hold you to a higher standard. In this leadership position and being a sorority president people know you even if you may not know them.” She continued to discuss living up to a certain expectation as a leader stating, “I know that we have to constantly act a certain way whether people are watching or not.” Finally, she emphasized the importance of modeling healthy behavior stating, “It’s important to practice what we preach.” Leah commented on feeling a similar anxiety about maintaining standards but did so from a different perceptive. While Charlotte’s anxiety centered on being observed as a leader as an ambassador and sorority sister, Leah’s describes a greater concern with how to obtain relevant and useful health information. She stated “We're held to a high standard. I think the most pressure I felt was just trying to ask the right questions to connect with a group and get the information you want”. Together, these comments offer some initial confusion around the roles and expectations of student leadership and how to operate in a leadership space.

Despite these initial comments and observations, the health ambassadors were able to confront and overcome the pressures associated with being held to a higher standard, appearing credible to other Greeks and athletes, and speaking in front of others. They used the health ambassador program and intervention as an opportunity to overcome these obstacles and experiences to positively develop aspects of their self-efficacy.

For instance, Charlotte was able to use the health ambassador program and intervention to overcome her initial trepidations around being held to a higher standard and her desire for satisfying others' expectations. She reported diminished social pressure and self-doubt, stating, "I really don't feel any pressure anymore in becoming health ambassador, I mean I had doubts in some things that may not go as planned, but otherwise I don't have pressure." Further she described a newfound affinity toward serving as a leader and possessed improved confidence stating, "I love leading and showing others my knowledge and what I have to contribute to not only my health and all this major but to campus. I can make a difference on campus."

Charlotte's ability to overcome her initial fears were reiterated during one of our ambassador trainings on prescription depressants. The training was divided into three equal groups of health ambassadors. Each group of ambassadors was asked to develop a presentation that was centered around Xanax use on campus. All three groups came up with different content and many ambassadors could not agree on said content. Almost immediately, Charlotte went to the front of the room and began incorporating the ideas of each group into the overall presentation. She was able to act without hesitation or fear of judgement. Instead, she began to celebrate her role as a leader and became accountable to herself and the health ambassador program. Following the training, I wrote in my field notes, "In one instant, I was able to see a leader in action, Charlotte was able to connect all of the ambassadors and they started performing as a group." I remarked further that I had always viewed her as a leader, but it was not until that moment that I was able to see her demonstrate leadership. Through her comments and my observations, she rose above her initial fear of being held to a higher standard and her desire for satisfying others'

expectations, and instead chose to embody new empowered beliefs and capabilities around leadership. The following section offers the qualitative findings on how the health ambassadors were able to improve their confidence as a result of the health ambassador intervention, and how this improved confidence provided an additional support to improving their overall individual self-efficacy.

Theme 2: Self-Efficacy increased by improving confidence throughout program implementation. Prior to the health ambassador intervention, participating health ambassadors reported feeling uncomfortable and ill-prepared to present health information to Greeks and athletes. However, by the end of the intervention the health ambassadors felt more comfortable and confident presenting substance use prevention material. Captured during the interviews, initial trainings and workshop observations, these feelings centered on strong beliefs that the health ambassadors would not be viewed as credible to the Greeks and athletes when presenting health information. Leah initially offered fears about public speaking and apprehension with presenting information to Greeks and athletes, stating, “I know that one of the biggest fears that people have is public speaking and I would include myself in that category. And I think that our education system hasn't nurtured my ability to do that as well as it could.” These comments were not spoken in isolation as other ambassadors echoed Leah’s remarks. Bennie, senior health ambassador remarked, “My confidence levels with presenting. I kind of I have always had a little second-guessing nature to myself and I want everything to be perfect,” while Avery commented how she is only comfortable speaking to others if she believed she knew the material. She articulated this by stating, “One pressure I faced

becoming a health ambassador was the ability to speak in front of a crowd. If I am confident on the information being presented, I enjoy presenting."

Further, she identified how the health ambassador program allowed her to overcome her fear of public speaking by connecting with other students on a more personal level. I observed Avery's passion and improved confidence presenting to Greeks and athletes during a presentation on prescription stimulants. As Avery interacted with the participating sorority, I remarked in my field notes, "Avery is comfortable presenting and really connected with the sisters. They continued to ask her more about the number of students who used prescription drugs non-medically." As her interactions continued, I observed Avery gaining confidence from presenting to this sorority: "This may have been the result of better preparation of health material and improved comfort level and ability to collaborate with other students". Through her comments and my observations, Avery was able to overcome initial negative beliefs around speaking in front of others and further develop positive aspects of her self-efficacy. As her health ambassador experience continued, Avery expressed a more gratifying attitude. She overcame her social barriers by connecting with those Greeks or athletes stating, "it was surrounding myself with people that share the same drive, dedication, and desire for change in health and wellness." Through their comments, these health ambassadors were able to identify several potential obstacles to feeling confident in presenting health and wellness information, including a desire to overcome perfectionist behaviors, limited experience presenting in front of groups, and a propensity to question one's leadership abilities.

These obstacles were further identified during a November 26th workshop to Sorority 1 on prescription stimulants. During the small group activity, I observed one

health ambassador, Belmont, struggle to present material to the participating sorority sisters. Initially, it became apparent that Belmont seemed a little overwhelmed during his presentation. He avoided eye contact, his voice was below audible, and he presented material in a very rushed and disorganized manner. Also, the participants seemed to take the conversation in several directions ranging from Adderall and alcohol to taking Adderall with cold medicine. Belmont was not able to regain control of the presentation as the sorority sisters continued on with their various discussions. I talked with him afterwards to get his thoughts on the workshop presentation, and he continued to express regret for his performance. He promised that he would "learn from this experience and be better prepared during the next workshop."

Yet, as the health ambassadors became more acclimated to the health ambassador program and participated in the intervention, feelings of apprehension and self-doubt were replaced by encouragement and empowerment. Belmont presented his second workshop on prescription stimulants on November 28th to Sorority 1. During this workshop, I observed a more assertive and confident health ambassador. His lack of confidence and disorganized approach to presenting health and wellness information was replaced by self-assurance and passion. I recorded during my observation that Belmont changed the way he presented and interacted to be much more conversational and inclusive. He replaced repetitive and poorly worded slides with outstanding open-ended questions that engaged the audience. Belmont asked powerful questions about social influence and perception. The audience was thoroughly engaged with this approach. When he asked the sorority sisters, "If a trusted friend gave you Adderall, are you more likely to use it?", the audience began providing their own experiences and nearly all

participating sisters expressed their frustration and discomfort with taking drugs that were not prescribed to them. In observing this interaction, I felt extremely proud of Belmont. He made true on his promise and it was great to see him not give up and keep trying.

Further, during an April 9th workshop on binge drinking prevention, I observed Bennie provide a powerful presentation about the importance of learning from past mistakes and turning tragedy into triumph. Bennie initially described his life as it is now. He expressed pride in his impending graduation date and acceptance into a graduate program in Dietetics. Yet, he commented to the sorority sisters that two years ago he never believed he would graduate. He then told his story and problems he has had from drinking. He expressed how alcoholism was in his genetics and how two years ago he received two DWI's. He described losing his license and struggling academically and financially. He told the audience that he was almost expelled from college because of his drinking. In my observation, I wrote, "This was the most authentic I have seen Bennie. I was very proud of his courage. I do not think he would have been this comfortable last semester." Further, I wrote, "I could tell when he was talking that the sorority was attentive because they were nodding, and the room was quiet." After his story, he showed the amount of money it had cost him and his family in legal fees from alcohol. This was extremely powerful. At the conclusion of the observation, I wrote, "This was one of the most powerful moments I have witnessed during the trainings or health ambassador intervention." Through his comments, Bennie not only positively influenced the beliefs of the sorority sisters to make healthier decisions but demonstrated strength and personal growth. His vulnerability and individual confidence encouraged the sorority sisters and athletes to fully participate and move beyond any perceived barriers that may have been

present. He was able to develop rapport and now serve as a confident voice for positive decision making and learning from other student experiences. As a result, the ambassadors were able to provide confidence, develop a rapport and uncover and address many of the challenging experiences in the sorority sisters' and athletes' lives.

Further, Charlotte described a positive increase in her overall confidence and competence in presenting health information and serving as a health ambassador. During a group interview she commented on how her confidence changed through learning and presenting health material, stating, "I became more competent in the material that I was studying. I grew more active on campus and I became more confident." When asked about her confidence pertaining to presenting alcohol and drug prevention material, she stated, "I feel highly confident in talking about drug-related content with students because it is something that is commonly distributed during college years between students."

She further exclaimed a strong desire to model and influence students' health behaviors stating, "I love leading and showing others my knowledge and what I have to contribute to not only my health, those in this major, and everyone on campus." Through her comments, Charlotte expressed enthusiasm for the opportunity to collaborate with and positively impact the health behavior of her peers. Yet, she recognized the importance of modeling behavior and practicing good habits first, before attempting to teach others they should adopt them. I observed Charlotte's ability to develop rapport with other sorority sisters during a workshop on prescription stimulants. She started by saying "it is not just important to talk about healthy living, if you are going to listen to me, you have to see that I live healthy living." Throughout her presentation, Charlotte

conveyed confidence in the material she was discussing and constantly checked in with the audience to ensure that they were understanding what was being presented. This was evident as Charlotte would present material and then allow time for the audience to discuss what was presented. Once she felt that everyone had an understanding of what was being taught, she would ask the sorority sisters to share their stories, opinions or experiences about her presentation topic.

Most importantly, she was actively listening and would readily ask the sorority if "that is what they meant" or "if she heard them correctly." I found myself in awe of her ability to connect with other students. She did not rush through any of the material and her relevance to other sorority sisters was present throughout. In fact, her passion for the topic area was evident and expressed to others. Charlotte's improved confidence and authentic approach to educating and connecting to her peers allowed for the participating sorority sisters to see someone who follows the health lessons they teach.

I also observed an increase in confidence in two other health ambassadors, Julius and Frederick. Julius remarked, "My confidence has definitely improved. I think it's a mindset but it's something you can always improve." He continued saying, "You can always practice you can always better yourself." For Julius, passion and purpose were the key contributors to his growth and he commented on his desire to connect and "get through to the individuals they were presenting to." Finally, Frederick remarked, "I think throughout this past year especially I feel more comfortable with facilitating and giving direct feedback whether it's constructive or positive." He continues to say, "I feel a lot more confident that what I'm doing is more effective." While his confidence increased, Frederick does not attribute the growth to anything he accomplished individually.

Instead, he assigns credit to the contribution and collective growth of the health ambassadors, stating “If someone isn't invested, they don't necessarily follow through with the things they are given to do. My confidence has grown with this group particularly because we are all invested in making this campus and our presentations better.” Like the other ambassadors, Frederick’s remarks offered the importance of committing to the health ambassador program, and using practical experience presenting to Greeks and athletes to develop personally and improve confidence. These remarks connected to an instance during the health ambassador trainings where I identified an increase in my own confidence in the health ambassadors.

During the third health ambassador training on prescription painkillers on November 15th I observed a unique display of confidence among the health ambassadors. The training was set to begin at 12:00pm and I arrived five minutes prior to the start of the training. Upon my arrival, I observed that the health ambassadors had rearranged the classroom chairs and were already siting within their respective groups. This was the first time I felt confident that the ambassadors would be able to work together as a team. Additionally, as the training continued, I observed four of my health ambassadors displaying confidence and leadership. During my presentation to the group, these four health ambassadors began taking notes and asking questions. Their initial participation served as a catalyst for additional health ambassadors to engage. Within an instant, any apprehension towards participating in the workshop was replaced by collaboration. I wrote in my field notes:

> I felt like for the first time, the health ambassadors began taking ownership and were excited about serving as student leaders. They used this discussion as an opportunity to include other ambassadors’ ideas and concepts into their overall

> process. I was amazed as to how the other students responded. They were completely engaged and excited to participate. I have officially let go and let the student leaders develop and create!

It was during this training that my belief and confidence in these health ambassadors became absolute. From that point forward, the health ambassadors were given complete ownership of the small and large group discussion training portions. I even limited the duration of my overall topic presentation to allow for additional time for the health ambassadors to collaborate.

Collectively, through practice, commitment, and engagement, all participants within the health ambassador program, including myself, were able to report an increase in confidence. Initial feelings of uncertainty and uneasiness were replaced by expressions of passion, determination and a purposeful commitment to personal growth. Together, improved individual confidence signifies a foundational piece and one of the major identified themes to enhancing one's self-efficacy. Within the following pages, the two remaining themes to improving overall individual self-efficacy are described.

Theme 3: Improved peer connection. The importance of peer connection between the health ambassadors and Greeks and athletes was demonstrated through the interview narratives and workshop observations. This peer connection served as a crucial characteristic of enhancing individual student self-efficacy. At the onset of the health ambassador program, some of the health ambassadors commented on the importance of peer connection in increasing one's self-efficacy. For instance, Ashley commented on the importance of conveying health information by relating and connecting to peers through conversation rather than instruction, stating "I think I can relate to these individuals in both the athletes and sorority groups. Just because these workshops aren't just teaching. It

is about getting the conversation started so you have a good discussion." Charlotte echoed Ashley's approach to peer connection stating, "We're kind of trying to change the conversation around. So, a sorority is not as negative as people say. I try to let them know that I am here and we're able to relate on their level." Finally, Belmont commented about using prior experience and expertise to better develop rapport stating, "I feel as if there is a sense of camaraderie and saying well, I've done this too and this is what you should do." Through these comments, the health ambassadors situated themselves as capable communicators who would relate to their peers and be able to impart health knowledge.

While these comments express a strong desire to connect with their peers, developing a strong peer connection proved to be difficult for some health ambassadors. For instance, those ambassadors who were on an athletic team or part of a sorority did not report the same challenges to leadership development and peer connection as other ambassadors. Charlotte was observed presenting the prescription painkiller workshop to Sorority 1. She was a sorority president and experienced little difficulty engaging the sorority sisters. During the observation, I noticed that she had the respect and admiration of the entire room even before she began. This became apparent as the entire sorority put their phones away when she began, and each sorority sister was attentive when she spoke. I noticed that she was extremely interactive and conversational in her approach. Her ability to connect with her peers made for a more impactful presentation. It seemed as if the sorority hung on her every word and demonstrated their attentiveness through an eagerness to participant and shared personal stories. For instance, one sorority sister shared a story about her addiction to oxycontin and credited Charlotte for creating a

comfortable and non-judgmental environment for her to speak in. After I observed this interaction, I noted “what a power example of peer connection.”

Another powerful example of peer connection between the health ambassadors and Greeks and athletes occurred while Jones was observed presenting the marijuana workshop to Team 1. Like Charlotte with the sorority, Jones had an instant connection to the athletes. He participated in football for four years and had instant credibility with the participants. During his presentation, I observed Jones asking questions to the athletes about athletic tradition, stigma and marijuana. The athletes were eager to provide responses and discuss his questions further. I noticed that he knew many of the Team 1 players and demonstrated little nervousness or anxiety. He even talked about use among athletes and why athletes use. I believed that my presence would make the athletes uncomfortable, but they carried on as if I were not there.

In fact, almost all the participants I overheard were pro-recreational marijuana citing everything from “stress relief to “improved sleep and focus.” This was somewhat disconcerting as marijuana is still illegal in New York State and its recreational use is classified as a schedule 1 drug. Apparently, Jones was disturbed by many of these pro-recreational marijuana opinions. He continued presenting marijuana material, but this time centered his presentation on the negative effects with long term use including brain development, decreased athletic performance, and mental illness. The same athletes who were in favor of recreation marijuana use were now listening intently. As Jones finished, many athletes voiced a different opinion about marijuana use citing that they valued athletics more than using drugs. They emphasized the importance of maintaining a certain GPA to stay eligible for games and practices. I commented in my field notes on

how Jones did a great job at helping the participants see how detrimental long-term marijuana use could be. He was able to make the athletes feel comfortable enough to value his presentation and offer their own opinions.

However, two non-athletes, Avery and Davis, were not as welcomed as those ambassadors who were athletes and had to overcome initial workshop challenges connecting to the Greeks and athletes. Specifically, Avery was observed struggling early in her presentation on prescription stimulants. During my observation of Avery, I watched how she started the presentation very nervously. She seemed to talk very fast and was not making eye contact, instead reading off of the screen. As a result, the athletes became somewhat disruptive during her presentation. In my field notes, I commented that "despite these challenges, she never gave up." Everything began to change for her through one powerful act of humility. Avery stopped her presentation, looked at the athletes, and said "I am not claiming to be an expert, I only want to help." Following this simple gesture, her experience became much more positive and she was able to connect with her peers. In fact, the athletes became much more willing to listen to Avery and I commented on this when she was finished, stating "what a difference from start to finish, she really connected with the athletes and it seemed that the athletes did not want to stop talking."

Further, Davis initially struggled presenting binge drinking prevention to Sorority 1. I observed how he seemed nervous and was reading off of a handout. I commented on how rushed and anxious he was, stating "it seemed like he barely provided participants the opportunity to answer a question before asking another one." His lack of engagement and inclusivity during his initial presentation felt somewhat uncomfortable, and the

participants were beginning to lose interest. Fortunately, Charlotte was able to provide support for Davis and step in and reengage the sorority through presentation and group interaction. Following his presentation to the sorority, Davis apologized to the health ambassadors and expressed how he would use this presentation as a learning experience and be better prepared for the next workshop. Davis was true to his word as he showed substantial improvement during the athlete presentation. It seemed as if I were observing a different presenter. He no longer read off of a handout and displayed more confidence. Perhaps his greatest improvement centered on his ability to become more conversational with the material he presented. For instance, I commented on this growth during my observation affirming, "Rather than provide facts and figures he was conversational and asked questions." I continue by noting how instead of rushing through questions, he took his time and listened to what others had to say. His overall presentation felt much more comfortable and the participants remained involved.

Through improved peer connection, the health ambassadors were able to report and demonstrate an increase in their individual self-efficacy. Peer connection signifies one key characteristic required for individual leadership development and enhancing one's overall self-efficacy. The following section offers the qualitative findings supporting how my program leadership positively contributed to improving the overall self-efficacy of the health ambassadors.

Theme 4: Individual efficacy positively influenced by faculty and program leadership. The final theme influencing the individual efficacy of the health ambassadors centered on their beliefs that student leader development was inspired by my leadership of the group. Embedded within health ambassador group interview transcripts are

positive expressions of gratitude and appreciation for me as their program director. For instance, during a group interview, Frederick emphasized the importance of working with faculty members who are dedicated and driven to cultivate a healthier campus stating, "Working with professors like Professor Lindner who are actually driven and dedicated to actually implementing change, not just talking about the change. Professor Lindner has been an awesome leader and taught us many skills."

Charlotte expressed her appreciation for her improved confidence after working with me stating, "The confidence you give us is such an awesome experience! Being able to influence change on campus with the ambassador program has made my confidence go up because I see what I can do." Further, Leah offered appreciation for her project director commenting, "Going through the health ambassador program has pushed me to grow in a bunch of different ways. I'm really grateful for the opportunity to follow Professor Lindner's passion and example and work with other students." Taken together, these comments express the positive contribution a faculty member and project director can make on the personal and professional development of students.

The health ambassadors also commented on my ability to treat them as equals and practice what I teach. As Bennie said "He tried to meet you on your level. I think he was one of the first professors or people that I've ever worked with who gave a damn. And that was very refreshing." Avery added "You know it's good to have a professor or somebody in that environment who didn't just tell you what to do. He didn't talk down to you." Together, Bennie and Avery described the importance of having a professor who did not belittle or talk down to them. They expressed the power associated with having a mentor who genuinely cares about students and the work they can do together.

Finally, one of the most powerful examples of faculty and program leadership was seen in Julius. Julius commented on his persistence to overcoming initial program obstacles stating, “I think it was just a lot all at once but once I kind of wrap my head around it and especially after I did my first workshop I'm like I can do this.” He attributed much of his growth to the program director commenting, “I didn't want to do it was before I met him. Then after I met Professor Lindner, I believed I can work with this guy. He's kind of a role model because he’s very hard working.” Through his comments, Julius expressed sincere appreciation for how the project director provided a positive example and offered continuous support and encouragement. During the February 5th health ambassador training, I observed a positive transformation in Julius and his attitude and commitment toward serving as a health ambassador.

For instance, during the health ambassador training, I commented on Julius’s apparent frustration with participating as a health ambassador. In my field notes, I wrote “Julius is extremely smart and passionate about health and wellness yet seems to lack confidence. While working with other ambassadors, he was not attentive and was heard second guessing his contributions to the group.” Conversely, several weeks later during the April workshop on binge drinking, I observed a very different Julius. I noted:

> What a significant difference from his presentation today to when I initial observed him in the health ambassador trainings. Julius was very prepared and highly professional. I felt like I was watching a seasoned professional present material. His slides were easy to understand and each one again had a method of engaging the audience e.g. question, fact or figure, etc. answered questions hesitation and were accurate. Julius was very knowledgeable and was able to provide many instances of negative consequences resulting from excessive drinking from his personal experiences. Most importantly, he involved the other ambassadors by asking them to assist him with a question and answer period. After the workshop, Julius thanked me for not giving up on him and providing a positive example to help him succeed.

Through my observation of Julius, I was able to witness student growth and development. His ability to assimilate to the goals and objectives of the health ambassador program, and desire work collectively with other ambassadors, helped to foster greater belief and stronger collective efficacy within the overall program.

Ultimately, these examples illustrate the importance of faculty and program leadership in the health ambassador program. However, our collective growth was not only attributed to faculty and program leadership. While I was able to positively influence the individual efficacy of the health ambassadors, I would not have been able to achieve such an increase without their contribution as well. In fact, the desire of the health ambassadors to serve as student leaders allowed me to function as a better project director and mentor. I remarked in my field notes following the first health ambassador training about the difficulties I was having letting go of the power dynamic commenting, "in order for this to work, I have to place ownership of the program on the health ambassadors and not myself". I commented further saying, "I have to trust in who they are and let go". In retrospect this was the turning point in the health ambassador program, as I was able to become more of an active participant than a director. Without allowing others to lead, we may have never worked together toward improving health on our campus, and the increases in self-efficacy among the health ambassadors may not have occurred.

Although the health ambassador program and Greek and athletic intervention provided opportunities for the health ambassadors to improve their perceptions of their overall self-efficacy, individual reports of improvement were not guaranteed. Initial health ambassador fears of living up to a certain standard, public speaking, and attaining

credibility with their peers threatened to impede their individual development. Rather than allow these fears to deter their progress, the health ambassadors used them as motivation to improve their individual efficacy and better contribute to the health ambassador program. An increase in individual confidence made for greater comfort and ease during the health ambassador presentations, which helped foster peer connections and utilize faculty and program support to create an environment conductive for peer education. Together, the findings provide support for Central Finding 2 and the belief that the perception of individual efficacy is positively influenced by overcoming barriers, improved confidence, peer connection, and faculty and program leadership.

Central Finding 3: Changes in Health Ambassadors' Perceptions of Collective Efficacy

The health ambassador program, as well as the experiences students gained throughout the intervention, empowered health ambassadors to work collectively in a supportive and meaningful way. Throughout their experience, the health ambassadors worked as a team, presenting a strong and unified voice that permeated the beliefs and perceptions of participating Greeks and athletes. Captured within group interview transcripts, along with training and workshop observations, are instances of teamwork and practical application and how they helped foster the collective efficacy of the health ambassadors. Throughout this study, collective efficacy has been described as the health ambassadors' perceptions of their capabilities to be successful in changing substance abuse and health behaviors. This finding is associated with RQ 3.

Theme 1: The health ambassadors coalesced as a team. During the initial health ambassador training on October 18th, I expressed concern that the health

ambassadors may not coalesce in the way I had envisioned, because many health ambassadors were new to the program and were also recruited from two different academic majors. Throughout my field notes, I captured my initial apprehension and questioned my abilities to develop a meaningful and collaborative health ambassador program. For instance, I expressed this concern with a series of questions including "how effective would the training be?", "did I develop the correct training content?", and "was my agenda organized in a meaningful and relevant manner?" However, my greatest concern centered on whether the health ambassadors would work as a team. This was my primary concern because the health ambassador program is extremely diverse and included participants from two different academic majors. Together, these comments offer my initial apprehensions as to whether or not the health ambassadors would be able to see value in teamwork.

Fortunately, the health ambassadors were able to use their experiences as student leaders to work together to positively change substance use among Greeks and athletes. While initial efforts to develop the health ambassadors as a team were hampered by different academic backgrounds and limited experience working together, as the health ambassador trainings commenced, and participants were provided opportunities to develop health and wellness workshops, these challenges dissipated. Following the health ambassador intervention, many health ambassadors described improved perceptions around teamwork and the value associated with incorporating their team strengths and capabilities into the overall health ambassador purpose. Throughout the program, the health ambassadors were able to coalesce as a team.

The value associated with demonstrating teamwork by combining the knowledge and skills of the health ambassadors was observed throughout ambassador trainings and workshops evident in several health ambassador interviews. Specifically, I observed the health ambassadors first work together as a team during the Prescription Painkillers training on November 15th. Following my presentation on hydrocodone and oxycodone, I wrote in my field notes about how the health ambassadors began to function as a team. I wrote, "Instead of having to divide the ambassadors into their respective groups, they did so themselves. While they were dividing themselves into groups, I observed them arrange their desks in a circle and begin discussing which groups would be the most effective to present on each topic. For example, one health ambassador Leah, seemed to take ownership of the process as she began writing each ambassador's answers or comments on the white board. As this was happening, two additional ambassadors Charlotte, and Bennie, began to help Leah. At the conclusion of the small group activity these health ambassadors were categorizing potential ideas and began a large group discussion determining who would best work together.

Leah noted this instance of teamwork and working with other student leaders during her final group interview stating, "For me, I learned a lot from people who have different strengths, it is so important that I got to know everyone better." She continued describing how working as a team allowed the health ambassadors to become more confident and capable to successfully decrease substance abuse and improve health behaviors among Greeks and athletes. She stated, "The health ambassador trainings allowed us to develop as a team. We weren't connected before but after the training we were. We decided who would work together, what the presentations would be like, we

created everything together". She further described the importance of working collaboratively and having each ambassador contribute to the larger group saying, "For me, collectively working with other people that are just as invested in giving a great set of information other people like makes all the difference." Together, her comments and my observation of Leah, Charlotte, and Bennie demonstrated the power of contribution and collaboration to the overall team chemistry and group effectiveness. I finished my observation noting how at the end of the workshop, all the ambassadors were engaged, and their voices and opinions were incorporated into who was best suited for each presentation group and how each group could contribute to the overall presentation. I continued to write about how the health ambassadors developed teamwork as I wrote in my field notes:

> Many of the ambassadors showed excitement about contributing to the group process and they were very inclusive of other ideas and opinions. They are beginning to coalesce and through collaboration and improved beliefs in one another their perceptions around successfully reducing substance use among Greeks and athletes is improving.

Additionally, during the final health ambassador training I observed perhaps the most powerful example of teamwork as the entire group united together. This observation was expressed in my field notes. I wrote, "For the first time in our ambassador trainings, the three small groups became one large group. They all turned their chairs into a large circle and began brainstorming topic areas into a larger presentation." I continued to observe as the entire group of health ambassadors began developing discussion questions and a presentation outline. As my field notes continued, I wrote about how I observed two ambassadors asking if other ambassadors would edit and review their PowerPoint presentation once it was completed. I recorded, "I have never been so proud. They are

working as a team!" These observations not only helped to alleviate many of my initial concerns about the health ambassadors to work together as a team, but they positively changed my perceptions around teamwork. I was able to observe several individual health ambassadors put their differences aside and work together to determine how to best reduce substance use among Greeks and athletes. This approach allowed the group of health ambassadors to become more efficacious as I observed an overall increase in their perceived capabilities and confidence levels.

Additional instances of how teamwork helped foster the collective efficacy of the health ambassadors were observed in the health ambassadors' workshops and found throughout the interview narratives. Specifically, Jones described a positive team experience with the health ambassadors commenting, "I felt very confident in our group as a collective. I think everyone was able to show up and gave 110%." He further articulated that the increase in group confidence was due to becoming more confident and comfortable with collaborating and presenting together. He stated, "we were all comfortable with one another and had a great group connection to the people we presented to." I was able to observe this increase in group confidence and collaboration Jones was referring to during the April 11th Marijuana prevention workshop to Team 1. Initially Julius and Jones were slated to present separately to the participating athletes. The two presenters were somewhat different. Jones was a former college athlete and health and wellness major and Julius majored in nutrition and dietetics. Also, Jones was a sophomore who lived on campus and Julius was a senior who commuted to college.

In my field notes, I wrote how Jones discussed several potential negative side effects to marijuana use. These included short term memory loss, delayed reaction time,

muscle fatigue, chronic depression, and respiratory problems (bronchitis, emphysema, etc.). In a display of teamwork, Jones integrated Julius in his presentation, and they presented the material together. This simple act of teamwork allowed Jones and Julius to become more confident in their abilities to present a workshop that helped them positively influence how Team 1 thought about and used marijuana. I noted in my field notes that this was a fantastic presentation approach for a number of reasons, including presenting a unified team and connecting Julius with the audience, which allowed him to become more comfortable when he needed to present. Collectively, Jones's comments and my observation demonstrates the positive influence that incorporating presenter differences and working as a team have on fostering collective efficacy among the health ambassadors.

Further, Charlotte and Frederick offered insight on the importance of believing the skills and capabilities of other health ambassadors in developing an effective team. Charlotte also provides a high level of support for other ambassadors stating, "My level of confidence that all health ambassadors are able to collectively develop health and leadership material is high. It was easier for to present information knowing that other people kind of had your back." Furthermore, Frederick offered optimism and trust about working with other ambassadors stating, "I trust them. I trust in their professionalism and striving for excellence and whatnot. I'm sure they give 100%." Their beliefs about trusting one another and presenting a more effective workshop, working on a team with others who are supportive and invested became apparent as I observed her engage with other health ambassadors during a workshop on prescription stimulants.

While observing Charlotte, Frederick, and the other participating ambassadors, I saw how their teamwork positively contributed to their overall beliefs and capabilities to help reduce substance use among Greeks and athletes. For instance, I noticed how the health ambassadors made it a point to involve each other in their presentations. For example, when Charlotte was finished speaking, I watched her signal to the other health ambassadors to join her in the front of the classroom. As they obliged, she asked them to assist in her question and answer period. This was fascinating as the team of ambassadors were able to answer several questions together. Also, I observed the capacity and capabilities of these ambassadors increase as they began assisting one another and building upon the other ambassador presentations and answers. For instance, I observed Frederick present to athletes on potential dangers of combining Adderall with alcohol. While he was presenting, he stopped and called upon another health ambassador who knew more about the dangers of drug combinations. The other ambassador, Bennie, was able to incorporate his health knowledge and improve the effectiveness of the overall presentation. This strategy became contagious as the other ambassadors in the group welcomed additional ambassador insight and opinions as they presented as well. Throughout the presentation they demonstrated a strong and unified presence with one powerful voice. Following this display of teamwork, I wrote, “I want to remember this example of teamwork”. Through their comments and my observation, Charlotte, Frederick, Bennie and the other ambassadors demonstrated that working with others to influence the health and well-being of others are far more valuable than just serving oneself.

Collectively, through practice, commitment, and engagement, all participants within the health ambassador program, including myself, were able to coalesce as a team. Working as a team allowed the health ambassadors to positively contribute to the overall collective efficacy of the health ambassadors. As the health ambassadors continued to work collectively with one another, initial barriers to teamwork and group collaboration began to be replaced by examples of teamwork and shared contribution. Health ambassadors used the intervention as an opportunity to move beyond their own academic specializations in favor of incorporating the knowledge and experiences from those in other academic disciplines into group learnings. Collectively, the health ambassadors used teamwork to develop a more efficacious and self-assured group who were able to use their knowledge and abilities to help decrease substance abuse among Greeks and athletes. Within the following pages, the role of practical application in improving overall collective efficacy is described.

Theme 2: Collective efficacy positively influenced by practical application. Throughout the health ambassador program and accompanying intervention, the health ambassadors consistently commented on how this experience was improved by applying the knowledge, skills, and competencies gained from their undergraduate coursework. As with teamwork, practical application was another way that the health ambassadors fostered their collective efficacy. In this study, practical application centered on the health ambassadors demonstrating new and innovative ways to educate about a substance use reduction among Greeks and athletes. They stressed connecting knowledge with practice, believing individual and group development was fostered through alignment of preparation, engagement, and opportunity. They stressed connecting knowledge with

practice, believing individual and group development was fostered through alignment of preparation, engagement, and opportunity.

The contribution of practical application to the collective efficacy of the health ambassadors is expressed throughout the health ambassador narratives and observed during the substance abuse prevention workshops. For instance, Bennie, expressed his belief that the success of the health ambassador program did not occur from individual achievement, but rather was created through a group of individuals coming together and applying health and wellness content. He stated, "I thought being a student ambassador was about leadership. Now I think it is about working with others and taking our learnings and education from college and applying together in unique ways to the campus community." He continued to comment on the benefits from applying learned health and wellness information together stating, "And using all of our knowledge and work together to develop engaging and peer led presentations that could help other students, made it all the more pleasant to collaborate made everything flow very efficiently."

I was able to connect Bennie's comments on how the health ambassadors used the applied structure of the health ambassador program to improve their collective efficacy to two instances captured during the final health ambassador training on marijuana prevention. During this workshop, I observed Bennie discussing with Leah, Julius, and Avery on how to best use each of their backgrounds in health to best develop a marijuana prevention workshop. As I observed this group, I wrote in my field notes that each of the health ambassadors seemed to have a great deal of knowledge around marijuana prevention. I observed Bennie, Leah, Julius, and Avery telling each other stories about all that he had learned about marijuana in a prior college health course. I noticed how they

used these stories and information they have gathered in their health and nutrition classes to develop their workshop. This workshop included a focus on medical vs. recreational marijuana, role of marijuana on appetite, depression, and anxiety, dangers associated with combining marijuana and other drugs, and the connection between marijuana and academic performance.

During a marijuana prevention workshop on April 11th, I observed Bennie, Leah, Julius, and Avery used the material they developed during the earlier training to deliver their marijuana prevention workshop in a collaborative and innovative way. To address this topic area accurately, the expertise and experiences from all four ambassadors were required. For instance, as previously stated the, the role of marijuana on individual appetite, depression, and anxiety was presented and discussed during the workshop. This topic area was broken up into two sections (1) the role of marijuana on individual appetite, (2) the role of marijuana on individual depression, and anxiety. This role of marijuana on individual appetite was presented by Leah and Avery, and easily addressed as both female health ambassadors were nutrition and dietetics majors, and both studied worked in clinical nutrition settings helping individuals learn about and adhere to proper dietary requirements. This information was presented in small groups using discussed scripting different college marijuana use scenarios. While their knowledge and experience were helpful, Leah and Avery had limited knowledge discussing marijuana and its effects on depression and anxiety. However, as health and wellness majors, Bennie and Julius were more than prepared to discuss the effects of marijuana on depression and anxiety as they had several academic courses on substance abuse and mental health. They described difficulties association with marijuana on the depression

and anxiety as marijuana is individual and may act as a stimulant, depressant, or hallucinogen. They then connected to Leah and Avery by describing potential short term and long-term effects of marijuana use on appetite, depression and anxiety. At the end of the workshop, I commented about Bennie, Leah, Julius, and Avery in my field notes stating "I was really impressed with how they utilized material they had previously learned about marijuana and other drugs to increase their collective confidence, and better incorporate their abilities in developing a collaborative marijuana prevention workshop. This level of engagement is what our program is about."

These findings of improved health ambassador collective efficacy through practical application were further highlighted through the experiences of Julius and Avery. During their final group interview, these two health ambassadors commented on how the health ambassadors improved their collective efficacy by demonstrating new and innovative ways to work together and educate about a substance use reduction among Greeks and athletes. For instance, Julius described the reward the health ambassadors received from working together to share and apply knowledge to other students, stating "Being able to be a part of sharing knowledge on this subject and being able to get more details on this subject in a more relatable way was amazing." Further, he expressed how important it was for the health ambassadors to work together and apply what they have learned to help reduce substance use among Greeks and athletes "We've been slogging through the past three and a half years and actually being able to apply it in something that was meaningful and to affect behaviors of all these other students was a demonstration of leadership." Finally, Avery echoed Julius, and commented on the importance of improving the collective efficacy of the health ambassadors by

incorporating substance abuse prevention within a practical application setting stating, "This program took knowledge and skills learned from our academic program and directly applied it to two different populations. I don't believe any health and wellness internship could offer the skills and application this program offered us."

Together, the comments of the health ambassadors and my observations describe the many outcomes resulting from the health ambassador program connecting undergraduate coursework with practical experience. While majoring in Health and Wellness or Nutrition and Dietetics provided a solid foundation for each health ambassador to begin the program, much was left to be desired. Only through a shared experience of developing and applying this health knowledge were the health ambassadors able to demonstrate these learnings and positively contribute to the collective efficacy of the health ambassadors.

Interpretation and Integration of Quantitative and Qualitative Data

This study employed a mixed methods approach where both quantitative and qualitative data were collected and analyzed. By combining qualitative and quantitative approaches, we are provided greater insight into the research questions than we would get from either approach individually (Creswell, 2014). Triangulation occurs when "both qualitative and quantitative data are collected at about the same time and given equal emphasis" (Mertler, 2017). Throughout this study, both quantitative and qualitative data were collected and analyzed separately yet treated similarly. The results were compared to determine if the quantitative and qualitative study results substantiate or complement one another.

In this study, the purpose of this mixed methods research was to investigate and improve student leadership in promoting health on a college campus, especially the prevention of substance abuse. This proved to be complex, due to the multifaceted nature of the college student experience, the challenges surrounding improving campus wellness, and the intricacies with establishing peer leaders. Thus, understanding the impact of peer leadership on student health needed to be addressed using multiple sources. The study intended to answer three research questions which assessed the effectiveness of the health ambassador program and its effects on various outcomes. For instance, RQ1 and RQ3 focused on capturing the influence of the health ambassador program on the individual and collective efficacy of the health ambassadors. RQ2 determined the extent that the health Ambassador (HA) intervention affected the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use.

Quantitative data collected included the Theory of Planned Behavior (TPB) Questionnaire and College Student Survey (CSS), while qualitative data was comprised of group interviews, training observations, and workshop observations. The quantitative and qualitative data are comparable in three areas. First, the health ambassadors demonstrated a positive change in their biases toward substance use among Greeks and athletes. Second, the individual and collective efficacy of the health ambassadors improved as a result several factors. For instance, individual self-efficacy improvements were derived from overcoming barriers, improved confidence, peer connection, faculty and program leadership, while collective efficacy was improved through instances of teamwork and practical application. Third, the health ambassador intervention was able

to positively affect many of the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use.

Enhanced Individual and Collective Health Ambassador Efficacy

These findings address RQ 1 and RQ 3. On the TPB questionnaire, three questions assessed aspects of individual health ambassador efficacy. When originally asked about their attitudes toward being a student leader, the health ambassadors reported differently. For instance, just over half (54%) thought that acting as a student leader would be pleasant, while the remaining 46% of the health ambassadors reported feeling unsure or unpleasant about serving as a student leader. However, following the post-questionnaire, 100% of health ambassadors reported that their experience as a student leader was pleasant.

Additionally, in Q 9, 77% of health ambassadors perceived they would be able to discuss sensitive topics with Greeks and athletes, while two ambassadors did not believe they were capable of discussing these topics. In the post-questionnaire, all health ambassadors reported that they were capable of having these sensitive discussions. These may be in part due to the large percentage of health ambassadors who shifted their beliefs and confidence around being prepared enough to present this material as undergraduate students.

For instance, 67% of health ambassadors either disagreed or were unsure that their undergraduate health curriculum had prepared them to serve as a student leader. Following the post-test, 89% of the health ambassadors reported that their academic preparation was sufficient enough to prepare them to be student leader. Finally, Q 15 asked about individual health ambassador expectations regarding their ability to

positively influence the health and well-being of other college students. During the pre-questionnaire, over half (54%) of the health ambassadors reported that they did not believe they expected to positively influence other students' health behaviors. All health ambassadors stated during both the pre- and post- questionnaires their desire to utilize the material learned during the health ambassador trainings to better serve students.

These findings are complimentary to the qualitative data that showed that the health ambassadors were able to increase their perceptions of individual efficacy by improved confidence, enhanced leadership and peer connection, and overcoming barriers to socialization and performance. From the group interview narratives, health ambassadors increased their self-efficacy by addressing self-doubt stemming from a perceived lack of knowledge or academic preparation. Others confronted apprehensions about public speaking, and a fear of working collectively with other student leaders. Further, observation data shows reported increases in individual health ambassador efficacy through vicarious learning, improving upon prior mistakes, and knowledge dissemination through practical application. It appears that improvements in self-efficacy were also crucial to enhancing the collective efficacy of all the health ambassadors.

Improvements in the collective efficacy of the health ambassadors was also reported in both the quantitative and qualitative data. For instance, the TPB behavior questionnaire contained three questions that assessed health ambassador attitudes, beliefs, and perceptions pertaining to teamwork and the ability of the health ambassadors to contribute to improving health on our campus. When asked if they were confident that other health ambassadors (Q 8) would be able to discuss sensitive topics with Greeks and athletes, 67% agreed they were confident. However, the post-questionnaire reported

100% of health ambassadors agreed that they were confident in other ambassadors being able to present information on sensitive health topics.

These findings were similar to Q 12 as 67% reported initially that they believed other health ambassadors were not capable of serving as serving student leaders and presenting health information. Yet, during the post-questionnaire, administered following the intervention, the health ambassador responses changed radically, with 89% of health ambassadors in agreement that they were all more than capable of serving in a student leadership role. Further, Q 17 addressed the intentions of health ambassadors to work together and co-create health workshop material. Finally, Q 18 asked about health ambassador intentions in working with other ambassadors to co-create health and wellness material. Initially, nearly three quarters (74%) of health ambassadors intended to work collaboratively with other health ambassadors in developing health and wellness information. During the post-questionnaire, 100% of the health ambassadors reported that they were able to work collaboratively.

These findings are complimentary to the qualitative data that showed that the health ambassadors were able to enhance their perceptions of the collective efficacy of the health ambassadors through practical application, teamwork and celebrating program diversity, and program and faculty leadership. From the group interviews and observations, health ambassadors celebrated program diversity as they appreciated and applied the knowledge and health content others possessed. They also provided a detailed narrative of improved accountability fostered by teamwork and shared contribution. Further, they acknowledged the positive experience resulting from collaborating with their faculty mentor toward improving health on our campus. Together, improvements to

individual and collective health ambassador efficacy helped to develop student leadership, team connectedness and contribution, and a more effective health ambassador program.

Enhanced Self-Efficacy from a Decrease in Bias toward Greeks and Athletes

The finding that demonstrated enhanced self-efficacy through a decrease in bias toward Greeks and Athletes addresses my first research question, RQ 1: How and to what extent does implementation of the Health Ambassador (HA) program affect individual student ambassador self-efficacy? On the TPB questionnaire, three questions were asked to participating health ambassadors about their attitudes, beliefs, and intentions in working with Greeks and athletes. Question 2 inquired about health ambassador attitudes around presenting to Greeks and athletes. Participant scores greatly improved from the pre- to-post- questionnaire. Initially, during the pre-test, only 39% of health ambassadors reported presenting information to Greeks and athletes would be pleasant.

This changed dramatically following the health ambassador intervention, as 100% of the health ambassadors reported a pleasant experience presenting to Greeks and athletes. These findings coincide with a change in confidence the health ambassadors reported from working with Greeks and athletes in Q7. The health ambassadors reported varying levels of confidence in presenting sensitive health topics to Greeks and athletes in their pre-questionnaire. For instance, 44% agreed they would be confident, 33% were unsure, and the remaining 23% reported not feeling confident. However, after working with the Greeks and athletes, 100% of the health ambassadors reported that they were confident.

These findings are complimentary to the qualitative data that showed that the health ambassadors improved their individual self-efficacy by using the intervention and health ambassador experience to overcome the negative biases they initially held toward Greeks and athletes. As with the quantitative findings, as the health ambassadors advanced through the health ambassador program, increases in self-efficacy and comfortability in working with the Greeks and athletes were reported. The narratives show that the health ambassadors were able to better understand the pressures associated with being a member of a Greek organization or participate on a team. Further, the observations demonstrated the health ambassadors using their perceived biases as an opportunity to learn from these groups and determine an inclusive and collaborative way to improve health on our campus.

Further, Q14 inquired about individual health ambassador perceived capability of providing peer leadership to the Greeks and athletes. This question stated, "I am not capable to provide peer leadership to Greeks and athletes" and used a 7-point Likert scale ranging from 1 – agree to 7 – disagree. In both the pre- and post- questionnaires, the health ambassadors disagreed that they would not be capable of providing peer leadership to Greeks and athletes. Yet, their level of capability was reported at different levels. For instance, the pre-questionnaire responses had a variance of 1.182 suggesting high variability between health ambassador answers. Yet, the standard deviation for post-scores was .333, signifying scores that the health ambassador responses are much closer together and closer to the mean.

Taken together, the health ambassadors believed they became much more efficacious in providing peer leadership following the health ambassador intervention.

This finding is complementary to the qualitative data that showed that as the health ambassadors began to interact with the Greeks and athletes and develop a rapport with these groups, they described and demonstrated increased self-efficacy and capabilities in serving as a student leader. Further, the qualitative data showed that as the Greeks and athletes began to feel like they were being supported and not judged, their comfortability and engagement in the health ambassador intervention improved dramatically.

Influence of Health Ambassador Intervention on Team 1 and Sorority 1

These findings address RQ 2. On the College Student Survey (CSS), the intervention group (Team 1 and Sorority 1) reported statistically significant changes in past 30-day use of drugs and alcohol and perceived confidence toward refusing drugs and alcohol. Prior to the health ambassador intervention, Team 1 and Sorority 1 participants reported a pre-survey score for Q 15 past 30-day alcohol of 2.97, signifying that on average these participants were drinking as little as three and as many as five drinks over the past thirty days. Also, intervention group participants were smoking marijuana (Q 16) nearly twice a month and binge drinking at least two days per month. However, following the health ambassador intervention, all intervention group past 30-day use decreased from an overall average of two days per month to less than one day per month. Specifically, within Team 1 and Sorority 1, 56% of participants reported a decrease in past 30-day alcohol use (Q 15), while past 30-day marijuana use (Q 16), and past 30-day binge drinking (Q 17) declined 27% and 32%, respectively.

Further, the intervention group reported statistically significant declines in Q 28 and Q 29 regarding healthy decision making and refusing alcohol, marijuana, and prescription drugs not prescribed to them. Of the intervention participants, 29% of

intervention group participants reported an increase in their ability to make healthier decisions (Q 28) following the health ambassador intervention. Also, 33% reported an increase in their drug and alcohol refusal skills (Q 29). In both questions, fewer than 12% of intervention group participants reported a decrease in confidence around healthy decision making.

These findings are complimentary to the qualitative data that showed that the health ambassadors and their intervention had a positive influence on both the health ambassadors and Team 1 and Sorority 1 participants. However, none of the qualitative data directly corroborates the quantitative findings related to RQ 2, but the qualitative data does lend credence to the findings. The health ambassadors used the five-week trainings to develop relevant and meaningful health workshops for Team 1 and Sorority 1. They specifically designed each workshop to include a presentation, small group activities, and a large group activity. These were designed with the intention of creating a collaborative and inclusive educational atmosphere.

As the health ambassadors became more confident in their abilities to serve as student leaders, the observed interactions between them and the intervention participants became more cooperative and team oriented. This shift was expressed throughout the group interviews as the health ambassadors overcame initial biases and began to view the intervention participants as equals. In return, Team 1 and Sorority 1 was observed developing rapport with other student leaders, remaining attentive throughout the workshops, and engaging in meaningful discussions. While these qualitative findings may not have a direct link to a reduction in past 30-day use, drug and alcohol refusal, or

an overall increase in confidence, they provided opportunities for intervention participants to choose healthier behaviors and connect to campus health initiatives.

Throughout this chapter, to demonstrate the collaborative nature of the convergent parallel mixed methods design, several analytical strategies were described, and quantitative and qualitative results were presented. Through the quantitative and qualitative results, the three research questions which attempted to better understand the influence of the Health Ambassador program at SUNY Buffalo State College on other students' perceptions, beliefs, and attitudes toward substance use, were answered. Further, the complementarity between the quantitative and qualitative results were able to provide evidence that the quantitative and qualitative study results substantiated one another and helped to offer stronger support for the research questions. Yet, despite these study successes, several limitations, implications for research, and implications for practice remain. Within chapter five, I will discuss each of these areas in detail and offer overall study conclusions and recommendations.

Chapter 5

DISCUSSION

Originally, the problem behind this action research project was a lack of qualified health professionals on campus providing substance abuse prevention, health promotion, and peer education, and a misalignment among campus health programming and undergraduate students. As discussed in Chapter 1, the college employs a full-time peer educator, with little to no health credentials or experience. As such, for many years, peer health education was provided primarily by students who were not enrolled in any of our three Health, Nutrition, and Dietetics (HND) academic programs. Recognizing that the college was not adequately incorporating those with health content specifications and academic training, I developed a health ambassador program as a means of providing future health professionals with the opportunity to function as educators and liaisons between the Health, Nutrition, and Dietetics department and Buffalo State students, specifically Greeks and athletes.

To address the challenges of alcohol, marijuana, non-medical abuse of prescription drugs among Greeks and athletes SUNY Buffalo State, I implemented a multiphase health promotion innovation consisting of five health and leadership trainings and five health workshops. During the fall 2018, the health ambassadors were trained on several substance abuse prevention topics including prescription painkillers, stimulants, tranquilizers, binge drinking, and marijuana. The health ambassadors then delivered the substance abuse prevention workshops to members of one athletic team and one sorority. To better understand the understand the influence of the Health Ambassador program at

SUNY Buffalo State College on Greek and athlete perceptions, beliefs, and attitudes toward substance use and abuse, I framed my study around the following three questions:

RQ 1: How and to what extent does implementation of the Health Ambassador (HA) program affect individual student ambassador self-efficacy?

RQ 2: How and to what extent does implementation of the Health Ambassador (HA) intervention affect the attitudes of Team 1 and Sorority 1 towards living a healthy lifestyle and reducing substance use?

RQ 3: How does the health ambassador program influence the collective efficacy of the health ambassadors?

Chapter 4 presented the quantitative and qualitative results, the complementarity between these results, and how they answered the three research questions. Throughout this chapter, the study limitations, implications for research, implications for practice, and conclusions will be discussed.

Limitations

This study has several limitations, some of which are directly related to the health ambassador intervention, while some are not. The first limitation to consider in this study is the potential difficulty in generalizing my findings to other higher education institutions due to the nature of the action research. Action research is defined as "any systematic inquiry conducted by educators for the purpose of gathering information about how their particular schools operate, how they teach, and how their students learn" (Mertler, 2017). As noted previously, the purpose of my action research was to investigate and improve student leadership in promoting health on my college campus, especially the prevention of substance abuse. While many other college institutes may

have similarities to my college campus, my localized focus to the undergraduate students at SUNY Buffalo State somewhat restricts the degree to which these findings are generalizable on other campuses.

Another limitation to consider in this study is the Hawthorne effect (Smith & Glass, 1987). My subjectivity and positioning as a researcher created a potential bias for the participants. As a faculty member and director of the health ambassador program, there is a delicate balance between myself, the health ambassadors, and other student participants. Throughout the study, I taught nearly seventy percent of the health ambassadors. By working with these ambassadors in a classroom setting as well, I had an additional opportunity to learn more about each of them personally as well as how they perform in a classroom. I was able to uncover how they liked to learn and receive information, and much of my training curriculum was developed based on these interactions and experiences. Also, much of my qualitative methodology centered on capturing heath ambassador leadership beliefs and perceptions through observations and group interviews.

Together, this threat to validity was unescapable and the additional consideration the health ambassadors received may have influenced how they presented to participating Greeks and athletes. Still, I did try to limit potential differences between those who participated in the intervention and control groups. Although the participation level for the athletic teams and sororities differed, I communicated with each of them in the same way. For instance, I emailed with all of the coaches and sorority leadership to schedule data collection and workshops, addressed questions and concerns, and provided documents on workshop content and purpose. I also met with each coach, team, and

sorority several times to ensure the study was being administered properly and with fidelity.

A third limitation was the nonequivalence between the Group 2 participants. This is defined as "any subject characteristic that makes the groups/compared unequal in any respect other than the treatment" (Smith & Glass, 1987, p. 130). Group 2 participants were divided into two larger groups, intervention and control. This happened in part due to participant bias and convenience. These groups were selected because they were either an athletic team or sorority, and they were the only teams or sororities available to participate at the time of study initiation. Yet, all Group 2 participants were asked to partake in the study and selected to do so. The intervention group included the thirty-four participating students from Sorority 1 (n=17) and Team 1 (n=17). The control group was comprised of ninety-five students from Sorority 1 (n=21), Team 2 (n=18), and Team 3 (n=72). The control group had sixty-one more participants than the intervention group. The control group also had thirty-five more males than the experimental group. However, the differences between groups mainly result from the participants in Team 3. If we remove the Team 3 participants, the intervention and control groups seem to be very similar. For instance, the intervention group has thirty-four participants and the control group with only Sorority 1 and Team 2 would have thirty-nine participants. Yet, if Team 3 was removed, the control group would report all female participants and differences would still remain within groups.

Finally, a fourth limitation would be that the study took place over two semesters and all health ambassadors did not participate during the entire study. During the fall 2018 semester, thirteen health ambassadors participated in the study. We were able to

complete the theory of planned behavior pre-questionnaire, one group interview, two health ambassador trainings, and two health ambassador intervention workshops. However, following the semester, four health ambassadors graduated leaving nine ambassadors. These nine health ambassadors were able to participate during the entire academic year. While I was able to add five new ambassadors for the Spring 2019 semester, it took nearly six weeks for them to get acclimated to the goals and objectives of the program and the intervention. Once they became comfortable in the program, our ability to work as a team improved. Yet, I did not anticipate how challenging it would be to incorporate new student leaders into a program where other leaders were already comfortable working with one another. Preferably, health ambassadors need to participate for the full academic year, as this would allow for a richer and more comprehensive narrative. This narrative would improve two things. First, I would be able to gather additional opinions to better describe changes in health ambassador beliefs toward being student leaders. Second, I would have additional reference points to observe the health ambassadors positively influencing the health beliefs behaviors of Greeks and athletes.

Implications for Research

Action research is an iterative process, incorporating a continuous and interacting spiral of learning and preparation, collecting and analyzing data, action plan development, and communicating results and reflection. As Ivankova (2015) explains, improved practical knowledge is derived from the cyclical nature of action research, allowing the researcher the opportunity to learn from prior research steps, refine their methodology, and better understand the problem being studied. The results of this study indicate that prior biases of substance use among Greeks and athletes was positively

improved through peer interaction. Avery, one of my health ambassadors highlighted this improvement during her final group interview stating, “It has been such an honor being able to change the perceptions and beliefs of the college population. After presenting the health information the students clearly understood the risk associated with these substance use”. Also, participation in health ambassador program favorably contributed to changes in the self-efficacy and collective efficacy of the health ambassadors. In my field notes, following our final workshop, I described some of the positive changes I observed in the health ambassadors throughout the program. For instance, I wrote,

> Throughout the 2018-2019 academic year, I had the privilege of working with eighteen undergraduate student leaders who all began the program as individuals who wanted to improve personally and professionally. Some were confident, while others were not. Some believed they could make a difference, while others did not. However, during the program something changed. Individuals became a team and the team had a different focus. Instead of individual achievement we focused on serving others and through service we found our voice. This voice was impactful as it blended the thoughts and opinions of so many. The result was a powerful force that educated other students on the importance and value of making positive health choices. Through this process, I was able to observe students become confident and compassionate leaders who coalesced as a team and displayed the power of the student voice. I can honestly say that I have learned more from them, than they did me.

Finally, the health ambassadors were able to positively influence the attitudes of Greeks and athletes towards living a healthy lifestyle and reducing substance use. This complementarity of qualitative and quantitative findings can provide the researcher with additional insight on the role of student leadership in promoting health on a college campus.

However, while the findings from this cycle of action research contributed new learnings to the effectiveness of peer leadership on the health behaviors of other students, further investigation is necessary. For instance, during the entire study, participating

health ambassadors did so of their own volition and were not awarded course credit. This study provides additional support for the development and implementation of peer health education courses that provide credit bearing opportunities for college student leaders. I envision these peer health courses expanding beyond the traditional health education approach, which focuses its curricula on changing the beliefs and behaviors of the individual student, to a model that is more inclusive of the entire the college population. These peer health leadership courses need to be taught using a cooperative and applied learning approach where college students are afforded the opportunity to work with other student groups outside of the traditional classroom setting.

Too often, academic classes are not infused into existing student affairs entities like Greek life or Intercollegiate athletics. As such, the burden in addressing college health is often divided between the academic and student affairs. To continue addressing campus health in this manner limits our collective abilities to provide a safe and healthy environment for all college students. I am suggesting infusing academic departments and their peer health courses into other student affairs initiatives and the overall fabric of the college culture. As higher education professionals, we have an opportunity to incorporate these courses into our efforts to cultivate healthier campuses and develop student leaders who are better prepared for careers in health and wellness disciplines.

As such, I believe that future research efforts should aim to determine the effectiveness of peer health education college classes where the peer student leaders received college credit for their efforts. This research could pertain to the impact of incentivizing undergraduate students with college credit on their effectiveness and desire to serve as a student leader. Complementary research could include the contribution of

these courses to the college's health prevention sustainability and retention efforts. For example, what effect would these courses have on the college's efforts to improve health on campus? Also, what effect would these courses have on the student leaders who are enrolled in the courses? How do their graduation rates compare to other students? Are they enrolling in higher education at a higher rate than other students? Pascarella and Terenzini (2005) found that students who are more engaged in the college experience, both academically and socially, are more likely to stay enrolled and graduate college.

Also, an examination of peer health and leadership programs on other Greeks and athletes is warranted. This study included one hundred and twenty-nine athletes or Greeks. Of these participants, thirty-five were sorority sisters and ninety-two were athletes. The participant groups included two sororities and three athletic teams. It would be interesting to see if the beliefs, perceptions, and behaviors of these other Greeks and athletes on other campuses are similar to the five participated in this study. For instance, how assessible are drugs and alcohol, do these students perceive alcohol and other drugs to be less risky, and are the use rates for the students similar or different from the other teams or sororities. Data found from other campuses may serve to further understand student substance abuse opinions and better address alcohol and drug prevention on campuses. Further, this same study approach as described above can be used for those students who are not members of an athletic team or a sorority. This presents a tremendous opportunity to compare and contrast behaviors and beliefs between those students who are Greeks and athletes and those who are not.

Finally, additional research needs to be completed around the individual and collective efficacy of student leaders. While this study found improvements in both areas,

the sample size was extremely small, and their leadership characteristics and qualities may not have been truly representative of other student leadership programs. Further research could compare differences and similarities between student leadership initiatives on campus. Also, the student leaders in this study majored in health disciplines. It would be interesting to compare and contrast these findings with other student health leadership programs. For instance, are the student leaders provided with similar training and education areas of college health? Or are they majoring in similar academic majors? Or different ones?

Implications for Practice

The purpose of this action research study was to better understand the influence of the health ambassador program at SUNY Buffalo State College on other students' perceptions, beliefs, and attitudes toward adopting and maintaining a healthy lifestyle. In this section, I offer two implications for practice, each obtained through my reflection of the identified successes and learnings from the health ambassador experience.

One study implication would be for the health ambassador program to expand its membership to include other students from additional academic disciplines. Inclusivity of all college students is imperative as other academic majors offer content specializations in a variety of health areas. Currently, the health ambassador program only includes students majoring in three academic majors within the Health, Nutrition, and Dietetics department at SUNY Buffalo State. While this model has proved successful, I genuinely believe many undergraduate students want to make healthy choices and teach other students how to live a healthier lifestyle. It becomes important to remember the power of students and their influence on other peers. As noted previously, peers are the most

influential group in modeling positive health behavior and educating and supporting other students (Okun, Karoly, & Lutz, 2002; Prochaska, Rodgers, & Sallis, 2002).

Having said that, the health ambassador program could expand its scope and include additional student leaders from other undergraduate majors. For instance, students who major in sociology possess critical thinking skills to think about addressing environmental health problems; psychology majors learn about health psychology, brain development, and addictive behaviors; and creative study majors learn to apply leadership principles and theories. Students from these majors and many others, would allow the health ambassador program to integrate and serve a broader student audience and present a more unified student voice.

Another implication for practice could be the development of two three-credit hour undergraduate courses and several one-credit topics courses. The first three-credit course will be open for all undergraduate students to enroll in and will be an introductory course for prospective health ambassadors to enroll in. This course will introduce new health ambassadors to the program, provide an opportunity for them to learn campus health promotion concepts, and explore the major components of planning and implementing campus health promotion programs. The second health ambassador course will include current ambassadors and will build upon learnings from the introductory course and discuss behavioral and cognitive theories and models of campus health promotion and leadership programs. This second course will use a practical application approach as applied assignments and projects will focus on improving Buffalo State's community through direct engagement of students and campus stakeholders. These opportunities can provide truly formative experiences for those students involved, giving

them a superior understanding of the environment in which they go to school and how their efforts can positively impact other students and the health of the campus community.

In addition to two primary health courses, several specialized one-credit health topic courses can be developed for specific college populations. Like the introductory health course, these topic courses will be open to all undergraduate students to take. While this study was able to address the impact of the health ambassador program on a subset of intercollegiate athletic teams and sororities, much opportunity exists for future peer leadership efforts. Currently, our campus has seventeen athletic teams and eleven sororities. Not to mention, over two thousand students live in our campus residence halls.

All the one credit courses will have a specific focus on making the college environment safer and will include various aspects of sexual assault awareness and prevention. In addition to sexual assault awareness, course content may vary by student group or affiliation. For instance, specialized courses for athletes may include risk prevention, coping mechanisms, mental health and mental illness, sports nutrition, and interpersonal violence. Greek life organizations may be able to participate in courses around disordered eating, mental health and mental illness, and hazing prevention. Finally, one-credit courses could be developed for those living on campus on developing and maintaining healthy relationships, self-resilience, healthy eating on a budget, and alcohol and substance abuse prevention.

Ideally, these courses would be taught in a collaborative and inclusive manner with students participating as co-instructors. As this study has found, peer health instruction and leadership with other students was vital to changing the health beliefs and

perceptions of other students as the health ambassadors were able to develop a rapport with other students of a similar age, and who may have similar experiences and share socioeconomic conditions. Together, through applied and cooperative learning, health ambassadors and participating students would be able to collaborate toward creating a healthier and student-engaged campus.

However, in addition to students participating as co-instructors, the role of the faculty facilitator is essential to effectively implementing these courses. Leadership is fostered through trust, support, and encouragement. The role of the faculty facilitator is critical to the leadership development of the students because they are often viewed as mentors and leaders. It is important for a faculty facilitator to educate and mentor student leaders, but it becomes imperative to know when to allow the students to lead. In this model, student growth and development are paramount, and the faculty facilitator recognizes that their role needs to continuously evolve to foster this growth. Throughout the process the faculty facilitation moves from educator to mentor to learner. Ultimately, the students become the teacher and the teacher becomes the student.

Conclusion

This action research study and ensuing dissertation is the outcome of nearly three years of doctoral work. The Doctor of Education (EdD) in Leadership and Innovation is predicated on transformation and improvement, as well as creating "better learning environments for students of all ages." As I continued throughout this journey, I became better equipped to lead different campus and community entities through change at multiple levels, ultimately impacting student success. I developed a richer and deeper understanding of the techniques, theories, and beliefs of change leadership and

innovation. Further, I am better equipped to complete and contribute effective and meaningful action research to the health profession and higher education. Ultimately, this doctoral experience afforded me the support and opportunity to employ broad-based campus and community leadership programs while demonstrating measurable change to student health and success though significant and meaningful research.

Though promoting and improving health on a college campus is a complex problem to address for many institutions of higher education, the adoption and implementation of a peer health promotion and leadership program can be a powerful instrument of change. Bennie, one of my health ambassadors, described the essence of our health and leadership program stating, "As I think more about this program, the highest level of learning is teaching other people, leading by example on campus and being able to teach my peers things that are important. This is what I believe in." If anything, this study serves a reminder to colleges and universities about the power of the student voice and their abilities to positively contribute to the health and well-being of others. We must remember that although many factors can positively influence the student experience, peer members within a social group are consistently reported as the greatest influence on other students (Astin, 1993; Ender & Kay, 2001; Witkow & Fuligni, 2011). Yet the student voice is often overlooked or misunderstood. This study provided additional insight and strategy into how use data and theory to develop student leadership programs and strengthen collaboration and alignment between student and academic affairs entities. It also provided innovative ways to collect and report qualitative and quantitative study health data and educate others on how to use this information to positively enhance health and wellness policy, undergraduate health curricula, and

campus wellness. When driven by data and grounded in theory, peer leadership programs can serve as an influential tool in developing a better aligned and more comprehensive approach to campus health and well-being.

I have been working on improving health on my college campus for over twelve years and have continued to recognize the positive improvement to student health that results from integrating students into collaborative high impact learning practices such as applied learning and practical application experiences. As noted in Chapter 1, colleges and universities throughout the national landscape have encountered a tremendous burden from their students participating in unsafe and risky health practices. The findings from this study warrant the increased need of student leadership development to include an increased focus on campus health promotion and prevention. We should create college environments that allow students to think more broadly about disease and health and consider how social and environmental factors impact them. Students need to learn about strategies that promote health in themselves and in populations and experience firsthand how to address campus health issues and collaborate with others to develop ways to promote better health. Healthier students have a greater likelihood to perform better academically (Wald, Muennig, O'Connell, & Garber, 2014), which could lead to higher graduation rates (Gershenfeld, Ward-Hood, & Zhan, 2016). According to the Greek physician Herophilus "when health is absent, wisdom cannot reveal itself, art cannot manifest, strength cannot fight, wealth becomes useless, and intelligence cannot be applied."

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APPENDIX A

HEALTH AMBASSADOR GROUP INTERVIEW

1) "What does being a health ambassador and student leader mean to you?"
2) "What is your impression of campus Greek organizations and athletic teams and substance use?
3) What are some pressures you face in becoming a health ambassador?"
4) "How comfortable do you believe you are in functioning as a student leader on campus?"
5) "What is your level of confidence in providing peer leader-student interactions using alcohol, marijuana, and prescription drug content?"
6) "How comfortable do you believe other health ambassadors are in providing peer leader-student interactions using alcohol, marijuana, and prescription drug content?"
7) "How does the level of confidence that other ambassadors convey when providing health and leadership content influence how you will present information to Greeks and athletes?
8) "What is your level of confidence that all health ambassadors are able to collectively develop health and leadership material and effectively serve together as student leaders to Greeks and athletes?"
9) "Has the health ambassador program helped you become more confident in providing health and leadership information to Greeks and athletes?" If so, in what ways?
10) "Has the health ambassador program helped you become more confident in your abilities to work with other peer leaders in providing health and leadership information to Greeks and athletes?" If so, in what ways?

APPENDIX B

HEALTH AMBASSADOR OBSERVATION TEMPLATE

Group #1	
PRESENTATION TOPIC	
DATE	
TIME	
LOCATION	
OBSERVER	**Jonathan Lindner**

OBSERVATION CRITERIA – PRESENTATION AND INTERACTION

PARTICIPANT #1	
STYLE	**Notes:**
PRESENTATION DELIVERY	**Notes:**
POISE	**Notes:**
ABILITY TO ENGAGE AUDIENCE	**Notes:**
PARTICIPANT #2	
STYLE	**Notes:**
PRESENTATION DELIVERY	**Notes:**

POISE	**Notes:**
ABILITY TO ENGAGE AUDIENCE	**Notes:**
PARTICIPANT #3	
STYLE	**Notes:**
PRESENTATION DELIVERY	**Notes:**
POISE	**Notes:**
ABILITY TO ENGAGE AUDIENCE	**Notes:**
GROUP OBSERVATION	

ABILITY TO WORK TOGETHER	**Notes:**
COHESIVENESS IN PRODUCT FLOW	**Notes:**
ADDRESSING QUESTIONS	
USES RELEVANT INFORMATION TO EXPLAIN ANSWER	**Notes:**
ANSWERS QUESTION FULLY	**Notes:**
OVERALL IMPRESSIONS	
Overall Observation Notes:	

APPENDIX C

COLLEGE STUDENT HEALTH SURVEY

INSTRUCTIONS: The purpose of this survey is to better understand student perceptions about Alcohol and Substance Abuse. There are 29 questions on this survey and it will take about 10 minutes to complete.
Your participation in this survey is voluntary. You may skip any question you do not wish to answer. **Please select only one answer for each question.**

PART ONE: DEMOGRAPHICS

1) What is your age?
   (1) 18 (2) 19 (3) 20 (4) 21 (5) 22 (6) 23 (7) 24 (8) 25 (9) 26+

2) What is your gender?
   (1) Male (2) Female (3) Other

3) What is your race?
   (1) Asian American
   (2) Black or African American
   (3) Native Hawaiian or Pacific Islander
   (4) Native American or Alaska Native
   (5) White
   (6) Other (please specify)
   (7) Prefer not to provide this information

4) What is your employment status?
   (1) Employed for wages (full or part time)
   (2) Self employed
   (3) Not employed and looking for work
   (4) Not employed and not looking for work
   (5) Full-time student
   (6) Active military

5) Do you live on the Buffalo State Campus?
   (1) Yes
   (2) No

6) Do you live outside the immediate Buffalo State area and commute to the campus?
   (1) Yes
   (2) No

7) Are you currently a Health, Nutrition, or Dietetics major?
   (1) Yes
   (2) No

8) During college so far, which of the following student groups/activities have you participated in?
   (1) Greek organization (Social Fraternity or Sorority)
   (2) Intercollegiate athletics (Student Athlete)
   (3) Both
   (4) Neither

9) How many college credits have you completed?
   (1) Freshmen (0-29 credit hours)
   (2) Sophomore (30-59 credit hours)
   (3) Junior (60-89 credit hours)
   (4) Senior (90 or more credit hours)

PART TWO: ALCOHOL AND DRUG AVAILABILITY

How easy do you think it is for persons your age in your community to obtain...

10) Prescription pain relievers (such as Oxycontin, Percocet, or Vicodin) that were not prescribed to them?
   Very Easy Somewhat Easy Somewhat Difficult Difficult Very Difficult

11) Prescription stimulant pills (such as Ritalin, Adderall, or Concerta) that were not prescribed to them?
   Very Easy Somewhat Easy Somewhat Difficult Difficult Very Difficult

12) Prescription tranquilizers or "benzos", (like Xanax, Valium, or Ativan) that were not prescribed to them?
   Very Easy Somewhat Easy Somewhat Difficult Difficult Very Difficult

13) Marijuana?
   Very Easy Somewhat Easy Somewhat Difficult Difficult Very Difficult

14) Alcohol?
   Very Easy Somewhat Easy Somewhat Difficult Difficult Very Difficult

For the following questions, a "drink" refers to:

One Glass of wine or a Bottle of beer or a Shot glass of liquor or a Mixed drink

15) Think specifically about the last 30 days, up to and including today. During the Past 30 days, on how many days did you...Drink one or more drinks of an alcoholic beverage?
   (1) 0 days
   (2) 1-2 days
   (3) 3-5 days
   (4) 6-9 days
   (5) 10-19 days

(6) 20-30 days

16) Think specifically about the last 30 days, up to and including today. During the Past 30 days, on how many days did you...Use marijuana regularly?
(1) 0 days
(2) 1-2 days
(3) 3-5 days
(4) 6-9 days
(5) 10-19 days
(6) 20-30 days

17) Think specifically about the last 30 days, up to and including today. During the Past 30 days, on how many days did you...Drink five or more drinks of alcohol in a row; that is, within a couple of hours?
(1) 0 days
(2) 1-2 days
(3) 3-5 days
(4) 6-9 days
(5) 10-19 days
(6) 20-30 days

18) Think specifically about the last 30 days, up to and including today. During the Past 30 days, on how many days did you...Use prescription pain relievers (such as OxyContin, Percocet, or Vicodin) that were not prescribed to you?
(1) 0 days
(2) 1-2 days
(3) 3-5 days
(4) 6-9 days
(5) 10-19 days
(6) 20-30 days

PART THREE: PERCEPTION OF RISK OF HARM FOR ALCOHOL AND DRUGS

19) How much do you think people risk harming themselves physically or in other ways when they have five or more drinks of an alcoholic beverage once or twice a week?
(1) Little or No Risk
(2) Slight Risk
(3) Moderate Risk
(4) Great Risk

20) How much do you think people risk harming themselves physically or in other ways if they smoke marijuana once or twice a week?
(1) Little or No Risk
(2) Slight Risk
(3) Moderate Risk
(4) Great Risk

21) How much do you think people risk harming themselves physically or in other ways if they use prescription drugs that are not prescribed to them?
(1) Little or No Risk
(2) Slight Risk
(3) Moderate Risk
(4) Great Risk

PART FOUR: PEER DISAPPROVAL FOR ALCOHOL AND DRUGS

22) What would your friends think if you were to have one or two drinks of an alcoholic beverage nearly every day? They would…
(1) Strongly approve
(2) Approve
(3) Disapprove
(4) Strongly disapprove

23) What would your friends think if you were to smoke marijuana? They would…
(1) Strongly approve
(2) Approve
(3) Disapprove
(4) Strongly disapprove

24) What would your friends think if you were to use prescription drugs not prescribed to you? They would…
(1) Strongly approve
(2) Approve
(3) Disapprove
(4) Strongly disapprove

PART FIVE: PARENTAL DISAPPROVAL FOR ALCOHOL AND DRUGS

25) What would your parents think if you were to have one or two drinks of an alcoholic beverage nearly every day? They would…
(1) Strongly approve
(2) Approve
(3) Disapprove
(4) Strongly disapprove

26) What would your parents think if you were to smoke marijuana? They would…
   (1) Strongly approve
   (2) Approve
   (3) Disapprove
   (4) Strongly disapprove

27) What would your parents think if you used prescription drugs that were not prescribed to you? They would…
   (1) Strongly approve
   (2) Approve
   (3) Disapprove
   (4) Strongly disapprove

PART SIX: PERCEIVED CONFIDENCE

28) How confident do you feel in your abilities to make positive health decisions in your life?
   (1) Not at all confident
   (2) Somewhat confident
   (3) Confident
   (4) Very confident

29) How confident are you that you can refuse alcohol, marijuana, and prescription drugs (not prescribed to you) when offered?
   (1) Not at all confident
   (2) Somewhat confident
   (3) Confident
   (4) Very confident

I appreciate your time in taking this survey.

APPENDIX D

THEORY OF PLANNED BEHAVIOR (TPB) INSTRUMENT

Attitude:

1) Serving as a peer leader during interactions with Greeks and Athletes would be:

   Pleasant: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Unpleasant

2) Presenting health and leadership information to Greeks and Athletes would be:

   Pleasant: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Unpleasant

3) Presenting health and leadership information with other Health Ambassadors would be:

   Pleasant: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Unpleasant

Subjective norm:

4) Other health ambassadors would approve of me providing health and leadership information to Greeks and Athletes:

   Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

5) My family would approve of me providing health and leadership information to Greeks and Athletes:

   Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

6) Other SUNY Buffalo State college students would approve of me providing health and leadership information to Greeks and Athletes:

   Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

Perceived Behavioral Control:

7) I am confident in my ability to discuss sensitive health topics with Greeks and athletes:

   Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

8) I am confident in the health ambassadors and their abilities to discuss sensitive health topics with college Greeks and Athletes:

   Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

9) It will be difficult to discuss sensitive health topics with college Greeks and athletes:

   Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

10) I have a sufficient extent of health and leadership content specialization to provide peer education

Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

11) I am not capable to discuss sensitive health topics with college Greeks and athletes:

Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

12) The health ambassadors are not capable of serving as peer leaders and presenting health and leadership topics to Greeks and athletes:

Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

13) I am confident in my ability to provide peer leadership to Greeks and Athletes:

Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

14) I am not capable to provide peer leadership to Greeks and Athletes:

Agree: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Disagree

Intention

15) I expect to provide Greeks and athletes with improved skills and knowledge necessary to make healthier choices

Likely: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Unlikely

16) During the past six weeks, I have attended all health ambassador workshops and I plan to apply what I have learned in preparation to serve as a student leader

Likely: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Unlikely

17) I intend to work with other ambassadors and co-create health and leadership workshop material

Likely: 1 : 2 : 3 : 4 : 5 : 6 : 7 : Unlikely

APPENDIX E

ARIZONA STATE UNIVERSITY (ASU) INSTITUTIONAL REVIEW BOARD APPROVAL

APPROVAL: EXPEDITED REVIEW

Melanie Bertrand
Division of Educational Leadership and Innovation - West Campus
-
Melanie.Bertrand@asu.edu Dear Melanie Bertrand:

On 10/9/2018 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Improving College Health among Greeks and Athletes: The Effects of Peer Influence on Perceptions and Behaviors
Investigator:	Melanie Bertrand
IRB ID:	STUDY00008828
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• JLindner group college student health survey , Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • JLindner group theory planned behavior questionnaire consent, Category: Consent Form; • JLindner group theory planned behavior questionnaire, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • JLindner group college student survey consent, Category: Consent Form; • JLindner observation consent, Category: Consent Form; • JLindner observation form, Category: Measures

The IRB approved the protocol from 10/9/2018 to 10/8/2019 inclusive. Three weeks before 10/8/2019 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 10/8/2019 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in

the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Jonathan Lindner

Jonathan Lindner

APPENDIX F

BUFFALO STATE COLLEGE (BSC) INSTITUTIONAL REVIEW BOARD APPROVAL

Institutional Review Board
Sponsored Programs Office,
Buckham Hall B206 1300
Elmwood Avenue, Buffalo, NY
14222

Phone: 716-878-5723

Email: clickirb@buffalostate.edu

Federalwide Assurance ID#: 00007126

APPROVAL OF SUBMISSION

October 1, 2018

Jonathan Lindner
lindnejf@buffalostate.edu

Dear Mr. Lindner:

On 9/28/2018**,** the IRB reviewed the following submission:

Type of Review:	Expedited
Title of Study:	Improving College Health among Greeks and Athletes: The Effects of Peer Influence on Perceptions and Behaviors
Investigator:	Jonathan Lindner
IRB ID:	STUDY00000959
Funding:	None
Grant ID:	None

Documents Reviewed:	• JLindner group theory planned behavior questionnaire, Category: Surveys/Questionnaires; • Jonathan Lindner protocol_ArizonaState, Category: IRB Protocol; • Jonathan Lindner Group interview questions, Category: Surveys/Questionnaires; • JLindner observation consent, Category: Consent Form; • JLindner group college student survey consent, Category: Consent Form; • Jonathan Lindner College Student Survey,

The materials for the project referenced above were reviewed and approved by the IRB by Expedited Review. The IRB approved the study from 9/28/2018 to 9/27/2019 inclusive.

In conducting this study, you are required to follow the requirements listed in the Investigator's Guide to Research with Human Participants, which can be found by navigating to the IRB Library within the Click IRB system.

IRB approval is given with the understanding that the most recently approved procedures will be followed and the most recently approved consenting documents will be used. If modifications are needed, those changes may not be initiated until such modifications have been submitted to the IRB for review and have been granted approval.

As principal investigator for this study involving human participants, you have responsibilities to the IRB as follows:

1. Ensuring that no subjects are enrolled prior to the IRB approval date.
2. Ensuring that the study is not conducted beyond the expiration date without re- approval by the IRB.
3. Ensuring that the IRB is notified of:

- All Reportable Information in accordance with the Reportable New Information Smart Form.

Project closure/completion by the Continuing Review/Modification/Study Closure Smart Form.

4. Ensuring that the protocol is followed as approved by IRB unless a protocol amendment is prospectively approved.

5. Ensuring that changes in research procedures, recruitment or consent processes are not initiated without prior IRB review and approval, except where necessary to eliminate apparent immediate hazards to subjects.

6. Ensuring that the study is conducted in compliance with all IRB decisions, conditions, and requirements.

7. Bearing responsibility for all actions of the staff and sub-investigators with regard to the protocol.

8. Bearing responsibility for securing any other required approvals before research begins.

Prior to the expiration of this approval, you will receive notification that it is time for the IRB to conduct its periodic review of your study. Studies cannot be conducted beyond expiration date without re-approval by the IRB.

At completion of the study, you must submit a Study Closure Through Continuing Review. Step-by-step instructions can be found on the Sponsored Programs website at https://sponsoredprograms.buffalostate.edu/suny-rf-pacs-irb-module.

If this study is to continue beyond the originally approved period, you must submit a Continuing Review with required explanations before 9/27/2019 or within 30 days of study closure, whichever is earlier. You can submit a Continuing Review by navigating to the active study and clicking Create Modification / Continuing Review.

If continuing review approval is not granted before the expiration date of 9/27/2019, approval of this study expires on that date.

If you have any questions, please contact the IRB at the phone number or e-mail address above.