Improving Health Programs for Seton Hill University First-Generation College Student-Athletes

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Submitted to the Graduate Faculty of the

School of Education in partial fulfillment

of the requirements for the degree of

Doctor of Education

University of Pittsburgh

2020

UNIVERSITY OF PITTSBURGH

SCHOOL OF EDUCATION

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August 3, 2020

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University of Pittsburgh, 2020

First-generation college students are students for whom neither parents, natural or adoptive, mother/ father/ guardian, have completed a four-year college degree. The students are more likely to be racial and ethnic minorities, female, immigrants, low income, enrolled part-time, and/or work more than 13 hours a week. Similarly, first-generation college student-athletes are more likely to be students of color and from lower income families. First-generation college student -athletes come to college with lower standardized test scores and typically rely on scholarships, grants, and loans to pay for tuition. They have high college attrition rates. Seton Hill University, a small private school with a substantial population of first-generation student-athletes, seeks to improve available health programs and services for the students. The American College Health Association National College Health Assessment (ACHA – NCHA) consistently reports that among the students surveyed, stress, sleep difficulties, anxiety, and nutritional struggles affect academic performance. College exit surveys rarely ask questions related to health, so it is difficult to determine the extent to which physical and mental health issues contribute to college attrition. An assessment was completed to investigate stress, food insecurity, and sleep patterns among first-generation college student-athletes at Seton Hill University. Recommended are improvements for stress, food insecurity, and sleep through programs and services for first-generation college student–athletes at the University.

Table of Contents

List of Tables

List of Figures

Preface

To the first-generation college students, I see you, I hear you and I am advocating for you. I too am a first-generation college student who is the first female in her family to get a doctorate degree. This degree is dedicated to my family but especially to my Grandma Haney (who was fortunate enough to receive a high school education and fight for the rights of women) and to my Grandma Petrill (an immigrant, who never had the opportunity to receive additional education beyond the 8th grade). Next, thank you to my committee members, Dr. Fertman for never giving up on me and the endless amount of support and guidance. Dr. Hilton for your determination and ability to fight for social justice on campus and for the students at Seton Hill University. Dr. Kline, thank your time, edits and sharing your sleep knowledge with me. I would like to thank the 2017 HPA cohort for their support, kindness and friendship. Next, to my mom and dad who believed in me. Invested blue collar values into my core and to fight for the underdog. To Roger and Erin, for listening when I needed to vent. Finally, to Tyler who was my biggest fan and to my three children, Luke, Gianna, and Christopher, I love you so much.

1.0 Introduction

1.1 Problem Area

Addressing student health needs has never been more important. The pandemic that hit in March 2020 served to add urgency to promote and protect college students' health. The American College Health Association National College Health Assessment (2018) consistently reports that among the students surveyed, stress, sleep difficulties, anxiety, and nutritional struggles affect academic performance. College exit surveys rarely ask questions related to health, so it is difficult to determine the extent to which physical and mental health issues contribute to college attrition (McFadden, 2016).

A recent example, prior to the pandemic, showed the pressure and negative political consequences and outcomes for schools as they try to balance institutional needs with students' health and academic needs. Harrisburg Area Community College (HACC), Central Pennsylvania's community college, changed the school's student mental health services in October 2019. The president of the college justified eliminating campus mental health counseling as part of a larger reorganization to address a $2.7 million budget deficit. He also said there had been an increase in demand for virtual services and flexible appointment times outside typical office hours. "While the College needs to be fiscally responsible and modify or eliminate certain services, it is doing so with students' academic success and well-being at the forefront," the college said in an October 23, 2019 statement.

On July 1, 2002 Seton Hill College became Seton Hill University. According to the University president, the school "moved from one phase of existence to another" — from a

formerly Catholic, liberal arts, women-only school to a coeducational institution offering graduate degrees, including an MBA, a Saturday adult degree program, and a diverse student body that includes more international and first-generation students. The changes suggest academic complexity and multifaceted challenges for the University.

The process involved a series of meetings over four years with faculty, members of the administration, alumni, students, and other stakeholders. The issue on the table was Seton Hill's "identity" after nearly eight decades as a women's college. The state's core requirement for university status, a strong undergraduate four-year liberal arts curriculum, has been the centerpiece of education at Seton Hill going back to 1918, when it was first chartered by the state. Saint Joseph Academy, established in 1883, and Seton Hill Junior College in 1914, were forerunners to Seton Hill College. The school began admitting men several years ago, though it persisted in calling itself a school for women. Now, with University status, Seton Hill markets itself as coeducational. Seton Hill's student population in 2002 was 1,400 and expected to grow slightly, to perhaps 1,600, within several years. However, in 2019 the student population is now 2,079.

As part of the change to University status in 2002, the University's athletic department in early 2006 announced it was moving to Division II of the National Collegiate Athletic Association (NCAA) from the West Virginia Intercollegiate Athletic Conference (WVIAC). Before 2006, the athletic department consisted of only a few women's and men's sports. Significant to the University status change was expansion of the school's athletic programs and teams. It was viewed as critical to engaging alumni, local government leaders, legislative representatives, communities, business leaders, faculty, staff, students, and their families, as well as increasing the male presence on campus. Recruitment goals at the school level expanded to include first-generation college students. First-generation college students are students for whom neither parents, natural or

adoptive, mother/ father/ guardian, had completed a four-year college degree. These students are typically racial and ethnic minorities, female, immigrants, low-income, and/or part-time students with children who are often above the age of 22, live off campus, and work more than 13 hours (Chen & Carroll, 2005).

The 2019 Seton Hill University first-generation student-athletes are represented on all of the men's eight NCAA sports teams and eight of the ten NCAA women's teams (Table 1.1). Twenty-six percent (four of 15 players) of the ment's basketball team are first-generation students. The highest number of first-generation students on the men's football team is 21 out of 109 athletes (19 percent of the team). The women's softball team has the highest percentage of first-generation student-athletes at 50 percent (10 out of 20 students).

Table 1.1. Who are First-Generation Student-Athletes at Seton Hill in 2019?

	Male FGSA	Female FGSA	Total Team Members (FGSA %)
Men's Baseball	10	0	51 (FGSA,19%)
Men's Basketball	4	0	15 (FGSA, 26%)
Men's Lacrosse	2	0	29 (FGSA, 6%)
Men's Soccer	6	0	44 (FGSA, 13%)
Men's Wrestling	4	0	34 (FGSA, 11%)
Men's Football	21	0	109 (FGSA, 19%)
Men's Cross Country	2	0	11 (FGSA, 18%)
Men's Track and Field	5	0	32 (FGSA,15 %)
Women's Equestrian	0	0	15 (FGSA, 0%)
Women's Field Hockey	0	3	18 (FGSA, 16%)
Women's Golf	0	0	8 (FGSA, 0%)
Women's Basketball	0	3	14 (FGSA, 21%)
Women's Lacrosse	0	3	27 (FGSA, 11%)
Women's Soccer	0	5	24 (FGSA, 21%)
Women's Volleyball	0	2	18 (FGSA, 11%)
Women's Softball	0	10	20 (FGSA,50%)
Women's Tennis	0	1	9 (FGSA, 11%)
Women's Track & Field	0	5	31(FGSA, 16%)

1.2 Problem of Practice

Seton Hill University has a number of health programs and services. For example, the school's Wellness Center offers a level of care similar to that available in a primary care physician's office, with special attention to the unique needs of young adults. The office is staffed by the coordinator of health education and staff nurse practitioner during business hours, 9 a.m. - 5 p.m., Mondays through Fridays, and by the physician assistant on Tuesdays from 1 p.m. - 3 p.m. Unfortunately, transportation for private doctor or dental appointments or for other medical problems is the responsibility of the student. This poses a burden for the numerous Seton Hill international students who do not have U.S. driver's licenses and for other students who do not have their own transportation.

Free, confidential mental health counseling is available at Seton Hill's Counseling Center. However, due to lack of financial resources, there is a lapse of three weeks before a student can be seen at the counseling and disability center. Licensed and certified counselors are available for appointments from Monday through Friday, 8:00 a.m. – 5:00 p.m. In addition, 24 hours a day and seven days a week, campus police can respond to emergency situations, and a licensed counselor is on-call to respond as well. The counseling and disability center will assist with off-campus referrals to ensure continuity of care during academic breaks.

The Katherine Mabis McKenna Center is a recreation and athletics facility that can accommodate the needs of new programs, growing enrollments, and the entire Seton Hill community. The facility offers aerobics and fitness rooms, a weight facility, locker rooms, two intramural courts, athletic training facilities and athletic department offices. The Eden Hall Foundation running track, which circles the second floor of the McKenna Center, offers panoramic views of the Laurel Highlands on the one hand and an unobstructed view of the gymnasium on the

other. Many athletic teams still utilize Sullivan Gymnasium, adjacent and connected to the McKenna Center, as a practice facility. Sullivan boasts one full-size court for basketball and volleyball, as well as two indoor batting cages located on the balcony level with pitching machines for softball and baseball. Currently, spin and HIIT fitness classes are held throughout the week and free for all students.

To ensure the safety of all members of the Seton Hill University community, the university maintains a Campus Police Department that patrols all areas of the campus to enhance the quality of life. The Campus Police Department is staffed by trained professionals with full police powers. The Campus Police Office is in the Administration Building Annex; office hours are Monday - Friday 9 am - 4 pm, and an officer is on duty at all times.

A newer resource for all students is the campus food pantry, which opened in January 2018. The Griff's Food Locker is a "shelf stable" food pantry to assist Seton Hill students who are experiencing food insecurity.

Health and wellness programs for student-athletes are individually team focused. Team health and wellness programs are mainly the responsibility of the coaching staff, with emphasis on the NCAA Division II health program requirements (e.g., substance use, violence prevention, financial management, gambling prevention). Student -athletes do report using the food pantry; however, to date, the specific number of student-athletes using that service is not tracked.

It is a challenge for Seton Hill University to address student health concerns and needs, including first-generation student-athletes. The student-athletes report stress, anxiety, nutritional struggles, and sleep difficulties that affect their academic and athletic performance. This study provides a description of an assessment conducted in order to investigate the stress, food insecurity, and sleep patterns and deprivation among first-generation college student-athletes at

Seton Hill University. The goal of this study is to recommend strategies to improve Seton Hill University programs and services for first-generation student-athletes.

2.0 Literature Review

2.1 First-Generation College Students

Policy makers, higher education faculty, administrators, and researchers have long been interested in examining the experiences and outcomes of students who are traditionally underrepresented in colleges and universities. Policymakers have long wrangled with the definition of "first-generation." First-generation was used as a better way to identify disadvantaged students without referring to race or ethnicity. Whether used as code for "low income" or "underprivileged" or as a proxy for affirmative action, the label comes with assumptions: that the student's parents have little or no experience navigating the academic, financial, and cultural barriers to higher education, including an application process that stymies parents even with college experience.

While there is research and practice directed toward first-generation college students, there is no general agreement as to who qualifies as a first-generation college student. There is a general agreement that a correlation exists between the choices that students make regarding college and the educational attainment of their parents. Further, racial underrepresentation, low academic self-esteem, and difficulty adjusting to college can manifest while enrolled, contributing to a lower rate of college completion than that for students who have at least one parent with a four-year degree (Stephens, Hamedani, & Destin, 2014).

Unsurprisingly, students who come from families with highly educated parents are themselves more likely to be predisposed to enroll in college. On the other hand, students who are the first in their families to go to college—first-generation college students (FGCS) – may face

significant educational, financial, social, and cultural challenges in both going to and succeeding in college (Cardoza, 2016).

The definition of first-generation college students varies across schools, academic departments, and even programs at the same institution. Toutkoushian et al. (2018) analyzed eight different versions of the term "first-generation" and found that the number of students who are called first-generation in a 7,300-sample ranged from 22 percent to 77 percent. While the term "first-generation" may seem self-explanatory, the nuance of the identity does require examination. Often, first-generation students are categorized as those who are the first in their families to attend college. Yet, this leads to questions about the postsecondary experiences of extended family members, older siblings, and even non-family adults who have important roles in the lives of students. Many institutions have chosen to use the federal definition officially developed for the Federal TRiO Programs to determine eligibility for Pell grants, which defines first-generation students as students for whom neither parent, natural or adoptive mother/ father/ guardian, has completed a four -year college degree (TRiO, 2020). TriO comprises federal outreach and student services programs designed to identify and provide services for individuals from disadvantaged backgrounds. TRiO includes eight programs to serve and assist low-income individuals, first-generation college students, and individuals with disabilities to progress through the academic pipeline from middle school to post baccalaureate programs (TRiO, 2020).

2.2 First-Generation College Student-Athletes

Student athletes are challenged with tasks of intertwining practices and athletic contests with classes and academic demands. It is important to understand that although these students are

attending colleges and universities, they also have a responsibility to their respective athletic programs, which could pose an additional concern when choosing their post-secondary institution. NCAA Division I schools may provide tuition and fees, room and board, books, and other expenses related to attendance at a school. NCAA Division II full scholarships cover tuition and fees, room, board, and course-related books and supplies. Most student-athletes who receive athletic scholarships receive an amount covering a portion of these costs. Many student- athletes also benefit from academic scholarships, NCAA financial aid programs such as the NCAA Division I Student Assistance Fund, and need-based aid such as federal Pell grants.

First-generation college student -athletes are more likely to be students of color and from lower income families. First-generation college student-athletes come to college with lower ACT and SAT scores, and typically rely on scholarships, grants, and loans to pay for schooling. They have high college attrition rates (Gibbons, Rhinehart & Hardin, 2019).

2.3 Stress and College Students

Stress refers to the tension, pressure, and anxiety that are common to our society. We all feel stress to some degree. Some feel it more than others and are affected more. Its symptoms can be both physiological and psychological. Stress can affect sleep, eating, relationships, and academic and athletic performance. A student-athlete may experience stress because of the transition of being away from home, living in a residential hall, or from academic pressure in terms of "making grades" and becoming or staying "eligible." They may feel stress related to their own expectations or from those of significant others regarding their sport performance (NCAA Mental

Health, 2020). College student-athletes are a unique group on campus who may face a variety of stressors and challenges compared to their non-athlete counterparts (Yusko, et al., 2008).

College student-athletes are developing young adults, and, like their non-athlete peers, they must try to find ways to deal with a variety of academic events and challenges in daily life. However, in athletic settings, they face harsh and weighty demands, such as repetitive and exhausting training, frequent travels and competitions, injuries, pressures to win and avoid losses, internal competitions between teammates, media pressures, and, sometimes, burnout (Steffen, Pensgaard, & Bahr, 2009). These added burdens of sports participation make student-athletes' lives stressful, an extremely important issue that needs further attention. Furthermore, as Seyle (1976) explains, stress can be either positive ("eustress") or negative ("distress"); it becomes damaging when it becomes unpleasant stress (i.e., distress). Further, it could endanger not only their sports performance but also their physical and mental health (Yusko, et al., 2008). In such cases, understanding and identifying distress that student-athletes encounter in their daily lives would be an essential starting point to provide them with proper support.

First-generation and continuing-generation students each face common stressors associated with college adjustment. These may include, but are not limited to, living away from home for the first time, adjusting to the rigor of college-level classes, developing friendships, and managing time. However, first-generation students also face unique challenges specific to their social class backgrounds. Research by Garriott and Nisle (2018) indicates that first-generation students often do not have parents who are able to help them navigate the college environment. As a group, they have less "generational" or "cultural capital" passed on to them, particularly less college-specific informational and emotional support from family and friends (Barry, et al., 2009).

Stephens (2012) describes the cultural mismatch between higher education institutions' individualistic norms and first-generation students' interdependent motives for attending college. This may explain their relatively lower academic performance. In addition, they are more likely to be discouraged from attending college from family or friends who may see leaving home for higher education to be disruptive, dividing, or selfish. Other unique stressors first-generation college students may face include increased work demands, greater family pressures, and increased financial stress (Adams, Meyers, & Beidas, 2016).

The link between stress and academic outcomes among first-generation college students are the first to explore conditional indirect effects of stress on perceived academic goal progress. Findings suggest that institutional supports may be a particularly important explanatory variable in terms of the link between stress and perceived academic goal progress for first-generation students. First-generation college students' access to resources such as helpful teachers, mentors, and tutoring services, as well as a sense there are others "like them" on campus, may explain why stress is negatively associated with perceived academic goal progress in this student group.

2.4 Food Insecurity

Food insecurity is defined by the United States Department of Agriculture (USDA) and others as "limited or uncertain availability of nutritionally adequate and safe foods or uncertain ability to acquire acceptable foods in socially acceptable ways" (Anderson, 1990). In addition, researchers are beginning to understand that food insecurity matters for academic disruptions, like missing class and not buying textbooks (Phillips, McDaniel, & Croft, 2018).

Across studies, food insecurity is more common among students who are financially independent, caring for dependent children, younger, and/or from racial/ethnic minority groups. Food insecurity among college students is not equally distributed. Many subsets of students are at risk for food insecurity, from veterans and graduate students to first-generation students and students experiencing personal emergencies (Cady, 2014).

Students who are food insecure are more likely to have lower grade point averages (GPA) than food secure students (Maroto, Snelling, & Linck, 2015). In addition, many students may take on debt not only to pay for tuition but also to pay for room and board, either on campus or off-campus. The issue of food insecurity is one of growing concern among institutions of higher learning in the United States. In addition to studies on the prevalence and risk factors, research is needed to better understand the mechanisms by which food insecurity affects student health and well-being. Food insecurity is the limited or uncertain availability of nutritionally adequate, safe foods, or the inability to acquire personally acceptable food in socially acceptable ways (Schroeder & Smaldone, 2015).

Many students who experience basic needs insecurity do not access public assistance. About 20 percent of food insecure students receive Supplemental Nutrition Assistance Program (SNAP) benefits. In addition, it is important for colleges and universities to move beyond food pantries as they respond to basic needs insecurity on campus, Ideally engaging community organizations and the private sector in proactive, rather than reactive, support. College students face several challenges to healthy eating, including learning how to cook and acquire food, wanting to eat out with peers, balancing the cost of school and other financial obligations, and navigating a new food environment. Food insecurity can exacerbate these challenges, making it even more

difficult for students to maintain proper nutrition while balancing their academic responsibilities (Gaines, et al, 2014).

According to a National Real College Survey Report, it is determined that basic needs insecurity early in the fall semester is likely to capture more students; these assessments may also underestimate students' basic needs. In fact, Bruening and colleagues (2018) surveyed the same population at the beginning and at the end of a semester and found that rates of food insecurity were higher at the end of the semester (35 percent) than that at the beginning (28 percent).

2.5 Sleep Habits in College

The American College Health Association's annual National College Health Assessment (NCHA) survey includes information about sleep behavior and allows researchers to aggregate

results by students who self-identify as varsity athletes. Among 14,134 collegiate athletes at NCAA member institutions, 61 percent reported daytime fatigue at least three or more days in the past week, and others reported consistent or more serious sleep difficulties. These data are similar to those in non-athletes, suggesting lack of sleep is endemic among all college students.

In a recent single-institution study of 628 collegiate athletes from 29 varsity teams, 42 percent experienced poor sleep quality (measured by the Pittsburgh Sleep Quality Index) and 51 percent reported high levels of excessive daytime sleepiness (assessed by the Epworth Sleepiness Scale). Similarly, in the NCAA Growth, Opportunities, Aspirations and Learning of Students survey (GOALS) fewer than 25 percent of collegiate athletes reported more than eight hours of sleep on a typical night. Poor sleep quality was also prevalent, as 19 percent of male and 23 percent of female respondents reported difficulty sleeping for least eight of the prior 30 days. Moreover,

70 percent of male and 82 percent of female collegiate athletes reported a preference for more sleep. Better sleep is associated with greater academic success, perhaps, in part, because acute sleep deprivation impairs cognitive performance, and protracted insufficient sleep exacerbates mood disorders and distorts emotion regulation.

In general, students with better sleep (e.g., more than seven hours of night-time sleep), more consistent sleep schedules, lower levels of daytime sleepiness, and less weekend "catch-up" sleep, report higher grade point averages. Multiple single-institution prospective and cross-sectional studies have shown that insufficient, inconsistent, and/or poor quality (non-restorative) sleep independently predicts college students' academic performance, even after accounting for other measures of achievement like standardized test scores. In a study of 1845 undergraduates, those screening positive for possible sleep disorders were significantly more at risk for academic failure (defined as a GPA lower than 2.0). Among respondents in the 2009 ACHA-NCHA survey, sleep disturbances (early awakening, insufficient sleep, and/or difficulty falling asleep) independently predicted poor academic performance, on par with high-risk drinking in its association with GPA and course completion. On average, each additional day per week a student reported experiencing sleep problems raised the probability of dropping a course by 10 percent.

Quality sleep can improve student -athletes' grades and response times and reduce their chances of injury. In college sports, the most celebrated student-athletes make time for it all: class, practice, studying, conditioning, game days, team activities, and maybe even a little social time. Diminished sleep is also linked to poor mental health: People who are sleep-deprived are 10 times more likely to screen positive for the symptoms of depression or anxiety. In fact, mental health professionals often prescribe improved sleep as a treatment for depression, anxiety and even bipolar disorder. The average NCAA football player sleeps five hours and 51 minutes each night

during the season, the worst sleepers among college athletes, according to NCAA research. The average among St. Thomas football players stands at seven hours and 38 minutes (NCAA You Snooze, You Win!, 2019).

2.6 College Student Health Programs – Stress, Food Insecurity, Sleep

Growing numbers of students in college experience high stress, resulting in adverse emotional, academic, and health outcomes. A variety of stress management interventions are offered on college campuses. For example, internet-based interventions take various forms and often contain psychoeducation delivered via text, video or audio, assignments, and personalized feedback. Online interventions are often part of the college student health websites as an additional resource for helping students cope with stress. Locally, St. Vincent, Duquesne, and Thiel College offer mental health counseling with trained therapists on campus. At Seton Hill, there are only 2.5 therapists. At the four local schools, there are no campus meditation rooms. However, yoga and Pilates are offered.

Broton and Goldrick-Rab (2018) discovered the numbers of food insecure students range a bit depending upon the source. In their study of more than 30,000 college students, they found that approximately half of two-year and four-year students are food insecure. In fact, at least one-third of two-year students are also housing insecure, while up to 14 percent are battling homelessness on top of hunger. The Still Hungry and Homeless in College study found that 36 percent of university students experienced food insecurity in the prior 30 days, including situations where students cut the size of their portions or skipped meals as a result of lack of funds. The

number of non-traditional college students are increasing. More than one in four college students today have a child, which makes childcare costs a factor (Gault, et al., 2014).

Government food assistance is sometimes difficult to access. Students must sometimes make the tough decision between paying rent or paying tuition, as they don't have enough money for both. For some lucky students facing food insecurity, the issue lasts only for a brief time before they find a new job, receive a financial aid refund, get help from family and friends, or otherwise get into a better situation. Unfortunately, hunger can continue for some students, plaguing them throughout their college experience.

To help combat this issue, many schools offer programs to help alleviate the problem. For example, some institutions provide college meal assistance, offer events with free food, provide bagged meal options, create support centers for disadvantaged students, get student organizations involved, and provide food pantries on campus. Locally, Seton Hill, Duquesne, St Vincent, and Thiel offer food pantries to help combat food insecurity.

University students often have sleep issues that arise from poor sleep hygiene practices and technology use patterns. Yet, technology-related behaviors are often neglected in sleep hygiene education. The Sleep Treatment Education Program for Students – modified to include information regarding managing technology use (STEPS-TECH) – helps to improve both subjective and objective sleep outcomes among university students. Results of an experimental study with 78 university students showed improvements in objective indicators of sleep quantity (total sleep time) and sleep quality (fewer awakenings) during the subsequent week for students in the STEPS-TECH intervention group compared to a control group. Researchers may want to explore ways to make the current delivery strategy more powerful. Examples include interactive online modules or having participants engage in implementation intention activities to plan when, where, and how

to improve their sleep. Implementation intentions can be effective to help people initiate a variety of health behaviors (Baber & Cucalon, 2017), including better sleep hygiene. Duquesne, St. Vincent, and Thiel do not offer any sleep interventions at this time. In addition, Seton Hill does not have a quiet room or technology-free room. Larger universities are experimenting with sleep pods for their student -athletes (PR Web Newswire, 2018).

2.7 Seton Hill University

Chartered in 1918, Seton Hill University is a Catholic coeducational liberal arts university founded by the Sisters of Charity. In 2002, Seton Hill was granted University status by the Pennsylvania Department of Education. In addition, in 2002 the University became a coeducational institution, opening all academic programs to male students (Setonhill.edu, 2019).

Located in southwestern Pennsylvania's Laurel Highlands, Seton Hill is an NCAA Division II School. As of the Fall 2019 census, 2079 students were enrolled; 1688 undergraduates; 38 non-degree seeking undergraduates (of the undergraduates, 133 are degree seeking ADP students); 344 degree-seeking graduate students; and nine non-degree-seeking graduate students.

The school supports eight men's and 11 women's intercollegiate sports (Table 1.1). The University faculty and administration support participation in intercollegiate sports; however, it is always the student's responsibility to negotiate a way to receive information and or materials distributed in class. Students must understand that, depending on the course design and requirements, it may not be possible to make up a missed class section. Any absence from a class for participation in such events must be negotiated by the student with the instructor prior to the absence from class.

In January 2018, a campus food pantry opened. The Griff's Food Locker is a "shelf stable" food pantry to assist Seton Hill students who are experiencing Food Insecurity. The Locker has food items including peanut butter, soup, granola bars, canned fruits, and vegetables. Any Seton Hill student with a valid ID card can use Griff's Food Locker. It is a campus resource just like other offices and departments. Currently, the Food Locker is open on Wednesdays from 1:00-5:00 p.m. However, appointments are welcomed and encouraged.

The Food Locker is a member of the national College and University Food Bank Association (CUFBA). This organization provides support, training, and resources to connect more students with the food and resources they need for educational success. CUFBA is a professional organization of campus-based programs focused on alleviating food insecurity, hunger, and poverty among college and university students in the United States. CUFBA understands the challenges students face as a result of food insecurity and is committed to bridging gaps in knowledge and implementation of hunger relief practices. The prevalence and risk of factors associated with food insecurity among low-income U.S. undergraduate college students are listed below (Table 2.1).

CUFBA sources promising practices and partnerships with a variety of other hunger-relief organizations to help develop a multi-pronged approach to combating campus hunger. While it is wonderful to see the food pantry on campus, it is especially important for colleges and universities to move beyond food pantries as they respond to basic needs insecurity on campus.

Table 2.1. Prevalence of Risk Factors Associated with Food Insecurity Among

Low-Income U.S. College Undergraduate Students, by College Type in 2016

	Total		4- year schools		2- year schools		Less than 2- year schools	
Risk Factor	Number of Students	Percentage of low-income students	Number of students	Percentage of low-income students	Number of students	Percentage of low-income students	Number of students	Percentage of low-income students
First-generation	2,299,206	31%	1,015,263	28%	1,188.889	34%	95,053	35%
Receiving SNAP	2,257,121	31%	1,024.774	29%	1,128,133	33%	104,214	38%
Single parent	1,815,655	25%	756,885	21%	943,168	27%	115,602	42%
Disabled	1,591,962	22%	757,267	21%	773,159	22%	61,536	22%
Homeless or at risk for homeless	1,109,714	15%	504,397	14%	548,235	16%	57,082	21%
Former foster youth	788,866	11%	391,819	11%	371,419	11%	275,291	100%
Total low-income students	7,339571	100%	3,597,419	100%	3,466,862	100%		

3.0 Methods

3.1 Inquiry Questions

The study is guided by the following questions:

1. What are strategies to improve Seton Hill University stress management programs and services for first-generation college student-athletes?

2. What are strategies to improve Seton Hill University food insecurity programs and services for first-generation college student-athletes?

3. What are strategies to improve Seton Hill University sleep programs and services for first-generation college student-athletes?

3.2 Design

An assessment was conducted to investigate stress, food insecurity, and sleep among first-generation college student-athletes at Seton Hill University.

3.3 Setting

Seton Hill is a small university witha 14: 1 student to teacher ratio. The university was named among the Best Regional Universities in the North in the 2020 edition of America's Best

Colleges by *U.S. News & World Report*. In addition, it was also lauded as a best College for veterans and a best value school. Seton Hill student-athletes, the Griffins, compete in Division II of the National Collegiate Athletic Association (NCAA). During the 2012-2013 academic year, it was a member of the West Virginia Intercollegiate Athletic Conference (WVIAC) but has since moved to NCAA Division II.

The school supports eight men's and 11 women's intercollegiate sports teams. The Athletic Department is comprised of one athletic director, 17 head coaches, and numerous assistant coaches. Its sports medicine staff is comprised of five athletic trainers and one sports medicine physician, who is contracted through Excela Health. There are no strength and conditioning specialists, personal trainers, or sports dietitians on campus as a result of limited budgets. Students rely heavily on their coaches to seek these forms of training. A weakness of the athletic department is the limited diversity among the coaching staff as well as insufficient funding for more sports medicine professionals.

There are scholarships available, according to the Athletic Director; in 2018-2019, a total of 82.69 athletic scholarships were awarded. While there is not a specific number of scholarships per team, each team has a budgeted amount of scholarship dollars to award as they see fit as long as they meet their roster requirements. In addition, the Athletic Director has an overall budget each year for athletic scholarships; like all budgets it is subject to reductions. A budget is distributed to each of the teams to ensure equitability in terms of male and female athletic participation. Each coach then awards as he/she sees fit. The awards can range anywhere from $500 and up. It is very rare to cover room and board under the scholarships. In addition, the university's academic awards are set; if a student-athlete meets the requirement, they will get the full amount.

At the beginning of the 2019- 2020 school year, most head coaches are male and Caucasian. The lack of diversity among the coaching staff could cause internal conflict and lack of empathy between the student-athletes and the coaching staff (Table 3.1).

Table 3.1. Seton Hill Athletic Department Staff, 2019-2020

	Gender	Service Years	Full / Part time	University employee	Ethnicity
Athletic Department Director	M	14	F	Y	Caucasian
Head Baseball Coach	M	14	F	Y	Caucasian
Assistant Baseball Coach	M	2	F	Y	Caucasian
Assistant Baseball Coach	M	1	F	Y	Caucasian
Men's Basketball Head Coach	M	3	F	Y	Black
Men's Assistant Basketball Coach	M	2	F	Y	Caucasian
Men's Assistant Basketball Coach	M	1	P	Y	Black
Men's Assistant Basketball Coach	M	1	P	Y	Caucasian
Women's Basketball Head Coach	M	7	F	Y	Caucasian
Women's Assistant Basketball Coach	W	1	F	Y	Caucasian
Women's Assistant Basketball Coach	W	2	P	N, GA	Caucasian
Track and Field Head Coach	M	4	F	Y	Caucasian
Track and Field Assistant Coach	M	1	P	Y	Caucasian
Women's Equestrian Head Coach	W	5	P	Y	Caucasian
Women's Equestrian Assistant	W	1	P	N, GA	Caucasian
Women's Field Hockey Head Coach	W	11	F	Y	Caucasian
Women's Assistant Field Hockey Coach	W	1	F	Y	Caucasian
Women's Assistant Field Hockey Coach	W	1	P	N, GA	Caucasian
Women's Golf Head Coach	M	12	F	Y	Caucasian
Men's Lacrosse Head Coach	M	11	F	Y	Caucasian

Table 3.1 Continued

Men's Assistant Lacrosse Coach	M	6	F	Y	Caucasian
Men's Assistant Lacrosse Coach	M	2	F	Y	Caucasian
Women's Lacrosse Head Coach	W	11	F	Y	Caucasian
Men's Soccer Head Coach	M	16	F	Y	Caucasian
Women's Soccer Head Coach	M	1	F	Y	Caucasian
Women's Soccer Assistant Coach	W	1	F	Y	Caucasian
Women's Soccer Assistant Coach	M	1	P	Y	Caucasian
Women's Softball Head Coach	W	2	F	Y	Caucasian
Women's Softball Assistant Coach	W	1	F	Y	Caucasian
Women's Tennis Head Coach	W	7	F	Y	Caucasian
Men and Women's Track and Field Head Coach	M	4	F	Y	Caucasian
Men and Women's Track and Field Assistant Coach	M	1	F	Y	Caucasian
Men and Women's Track and Field Assistant Coach	M	1	P	Y	Caucasian
Men and Women's Track and Field Assistant Coach	W	1	P	Y	Caucasian
Women's Volleyball Head Coach	M	35	F	Y	Caucasian
Women's Volleyball Assistant Coach	M	17	P	Y	Caucasian
Men's Wrestling Head Coach	M	7	F	Y	Caucasian
Men's Assistant Wresting Coach	M	1	P	Y	Caucasian
Men's Football Head Coach	M	1	F	Y	Caucasian
Men's Football Assistant Coach	M	1	F	Y	Caucasian
Men's Football Assistant Coach	M	1	F	Y	Caucasian
Men's Football Assistant Coach	M	1	F	Y	Caucasian
Men's Football Assistant Coach	M	1	F	Y	Black

Table 3.1 Continued

Men's Football Assistant Coach	M	1	F	Y	Black
Men's Football Assistant Coach	M	1	F	Y	Caucasian
Men's Football Assistant Coach	M	1	F	Y	Caucasian
Men's Football Assistant Coach	W	5	F	N	Caucasian
Men's Football Assistant Coach	W	3	F	N	Caucasian
Women's Cheerleading Head Coach	W	4	P	Y	Caucasian
Athletic Trainer	W	1	F	N	Caucasian
Athletic Trainer	W	2	F	N	Caucasian
Athletic Trainer	W	2	F	N	Caucasian
Athletic Trainer	W	3	F	N	Caucasian
Sports Medicine Physician	M	10	M	N	Caucasian
Strength and Conditioning	N/A	N/A	N/A	N/A	N/A
Personal Trainer(s)	N/A	N/A	N/A	N/A	N/A
Sports Dietitian	N/A	N/A	N/A	N/A	N/A

3.4 Participants

The study population included Seton Hill University first-generation student- athletes. Using the University institutional database for years 2016 through 2019, the student population was segmented by gender, student-athlete status, and first-generation and non-first-generation (Table 3.2). Overall, 40 first-generation student–athletes were identified and recruited to participate in the study. A total of 31 first-generation student-athletes agreed and completed the study.

Table 3.2. First-Generation and Non-First-Generation College Student-Athletes' 2016-2019

Cohort	Category	1st Gen		Not 1st Gen	
		N	%	N	%
2016	Non-athlete	87	36.1%	154	63.9%
	Male athlete	24	39.3%	37	60.7%
	Female athlete	13	22.0%	46	78.0%
2017	Non-athlete	61	22.0%	216	78.0%
	Male athlete	10	10.6%	84	89.4%
	Female athlete	6	11.3%	47	88.7%
2018	Non-athlete	40	16.3%	205	83.7%
	Male athlete	11	13.3%	72	86.7%
	Female athlete	7	12.7%	48	87.3%
2019	Non-athlete	32	13.9%	198	86%
	Male athlete	14	16.6%	70	83.3%
	Female athlete	9	15.2%	50	84.7%

3.5 Instruments

The study measures included the following:

- Perceived Stress Scale
- U.S. Department of Agriculture's Adult Food Security Survey
- Epworth Sleepiness Scale
- semi-structured student interview

The Perceived Stress Scale (PSS) is a self-report stress assessment (Appendix B). The PSS measures an individual's subjective degree of stress based on appraisal of experiences over the previous month (Lavoie & Douglas, 2011). The PSS includes 10 items that ask respondents to assess the degree to which they view their life as "unpredictable, uncontrollable, and overloading" (Lavoie & Douglas, 2011). It measures an individual's subjective degree of stress based on appraisal of experiences over the previous month. Items are rated using a 5-point Likert-type scale ranging from 0 ("never") to 4 ("very often"), with a possible total score falling between 0 and 40

(higher scores indicating higher ratings of stress). The PSS has demonstrated sound psychometric properties in past research (Taylor, 2015).

In the U.S. Adult Food Security Survey Module, questions measure food security status with a 10-item survey (Appendix C). The measure is modified to accommodate collecting the data through a Qualtrics survey rather than a telephone interview. Questions are ordered by severity, and attribute experiences and behaviors to insufficient resources to acquire food over the past 12 months. Affirmative responses to the 10 items are summed to create a total score. Food security categories are assigned according to the U.S. Department of Agriculture's Adult Food Security guidelines: high food security (score of 0), marginal food security (score of 1 to 2), low food security (score of 3 to 5), and very low food security (score of 6 to 10). Per U.S. Department of Agriculture definitions, high food security refers to individuals who have no issues or anxiety about consistent food access. Marginal food security refers to individuals who may have worries about their food running out, but the quality and quantity of foods consumed is unaffected. Low food security refers to individuals who may have reduced the quality or diversity of foods consumed, but the quantity of foods consumed is unaffected. Very low food security refers to individuals with disrupted quality, quantity, and diversity of foods consumed due to insufficient resources. Food insecurity references both categories of low and very low food security.

The Epworth Sleepiness Scale (ESS) is the most widely used tool to estimate the subjective symptom of daytime sleepiness (Appendix D). Respondents are asked to use a scale of 0 to 3 to estimate their likelihood of dozing in eight different situations in recent weeks. The individual scores are summed, and possible scores range from 0 to 24. A score greater than 10 indicates excessive daytime sleepiness. It is a self-administered questionnaire and involves the subject answering eight questions based on daily life situations. The answers range from 0 (would never

doze) to 3 (high chances of dozing), and the final score is the total of all the individual scores. The scale has been shown to be reliable and valid (Johns, 1992).

Semi-structured student interviews were conducted. There were three main questions related to stress, food insecurity, and sleep, which were used to stimulate a response from the participant. For each question, there were three probes to elicit more detailed responses from the participants. The questions were created to complement areas of each survey. Students discussed the services they use and services they do not. Inquiries regarded how students receive their food, familiarity with the Griffin's Food Locker, and transportation to go off campus to buy groceries. Students were asked to identify ways they relieve stress, discuss stress management education that their team provides, and preventative stress management programs that should be on campus. Lastly, students were asked to review their sleep habits. Questions pertaining to preventative sleep programs on campus were also asked and recorded.

3.6 Data Collection

Subjects were recruited by word of mouth, coaches, emails, and in courses where the investigator taught. Next, a recruitment email was sent to 40 first-generation student-athletes who expressed interest in the project. Thirty-one students agreed to complete the survey, which resulted in a 78 percent response rate. Of the 31 participants who accessed Qualtrics, all 31 students completed the three surveys and met with the principal investigator to complete the semi-structured interview for an overall completion rate of 100 percent. The principal investigator conducted a thorough quantitative review for each survey collected. Means were calculated for age, gender, and race in order to identity any similarities or differences. Next, qualitative analysis also took

place for the semi-structured interview results. Themes were categorized into various groups to compare results for age, gender, and race.

3.7 Data Analysis

Data analysis consists of descriptive statistics for the total sample and demographic groups, including gender, race/ethnicity, and age for the Perceived Stress Scale, USDA Adult Food Security Survey, and Epworth Sleepiness Scale. Means were calculated for every question in all three surveys and then compared to each demographic silo. A thorough analysis was conducted to review any similarities or variations.

The semi-structured interviews consisted of thematic analysis of qualitative data. Themes were identified with each group and reported.

3.8 Reflexivity

I am a board certified registered dietitian with the Academy of Nutrition and Dietetics, with certifications in Sports Dietetics (CSSD) and Certified Adult Weight Management Specialists from the Academy. I have worked in many different areas of dietetics. I completed my undergraduate degree in 2004 and continued in a coordinated Master's program in nutrition and dietetics while completing a 1,200-hour internship. After meeting the necessary competencies and performance indicators, I was able to sit for the national board exam. After successfully passing the exam, I began my work at a long-term care facility and moved on to a faster paced acute care

hospital. However, I was still yearning to fulfill my true passion of education and health promotion. After jumping out of my comfort zone and moving, I finally landed the position I so eagerly sought with the Marine Corp.

Throughout my tenure with the Marine Corp, I have educated and counseled active duty marines, sailors, and Department of Defense retirees and dependents on the benefits of proper nutrition through unit lectures, meal planning, cooking classes, and grocery store tours. In addition, I wrote a weekly "Ask the Semper Fit Dietitian" column for the base newspaper. Plus, I created and implemented a pilot research program to review the effect of nutrition education interventions for the Marines on the Body Composition Disciplinary program. In addition, I developed, recruited, and implemented monthly health-related programs for Marine Corp Base Quantico, such as Fueled to Fight Cookbook Contest, National Nutrition Month, Go Red for Women Initiatives, Kids in the Kitchen Cooking Classes, as well as assisting with the Biggest Loser competition, developing and implementing the Amazing Devil Dog Challenge, and even lifting and enforcing appropriate hydration during the Grunt Competition. In addition, I assisted with the design and implementation of Headquarters Marine Corps, Combat Fitness Training. Lastly, I became an expert in anthropometric measurements by consistently performing bone density, resting metabolic rate, body composition, and blood pressure screenings for all active duty, retirees, reservist, and Department of Defense employees. After four years, I decided that I wanted to pursue more research and teaching.

It was 2011 when I came to Seton Hill University as an Integrative Health Coach to work on a research project funded through the Henry Jackson Foundation. In that role, I had the opportunity to work closely with the student body by conducting interviews to gather important data on stress, sleep, nutrition, and exercise.

Due to the ability to work closely with both the officers and enlisted, I started to notice a troubling difference between the two groups. There is a dire need to identify and promote healthy habits to the enlisted. Throughout my time at Seton Hill, I was able to teach part-time and eventually be brought on as a full-time faculty member. In this role, I not only teach but also advise full-time undergraduate exercise science students. Today, in my role as an Instructor in Exercise Science and Nutrition and Dietetics. I have found a connection to those students who are first-generation and myself. Once I establish trust with them, they open up more about food insecurity, struggles and barriers they are facing in academics and athletics, and the lack of sleep that continues to burden them.

I am a first-generation college female who worked her way through college as a waitress with support of parents who gave me everything they could. However, I still have student loans and am able to empathize with the barriers these students face. In addition, I have been at the University for eight years and have noticed many substantial changes in the athletic department. The coaches are concerned about the pressure to increase their rosters and overall increase the number of student-athletes by 100 by the start of next year. My passion lies in sports nutrition, adult weight management, and health promotion. Due to the nature of my credentials of a Certified Specialist in Sports Dietetics, many of the coaches openly talk to me about their concerns.

4.0 Results

The first-generation student- athletes' demographics (Table 4.1) are 71 percent male (n=22) and 29 percent female (n=9). The students' ethnicity is 55 percent White (n=17) and 45 percent non -White (n=14). Included in the non-White group are Black, Latinx, and biracial students. Students are predominantly between the ages of 18 and 20 years old at 61 percent (n=19) of the sample. Students ages 21 to 23 comprise the remaining 39 percent (n=12). The majority of female athletes were on the women's basketball team, 33 percent (n=3), and track and field team, also 33 percent (n=3). For the men, the majority were on the football team, 45 percent, (n=10), and track and field team, 18 percent (n=4). Of the seven female teams, three (golf, lacrosse, and softball) had no first-generation college athletes. Of the seven male teams, only one (lacrosse) had no first-generation college athletes.

Table 4.1. Descriptive Statistics Sample Characteristics (n = 31)

Age Group by Total and Gender						
	18	19	20	21	22	23
Total (n=31)	2	9	8	6	5	1
Female (n =9)	2	2	2	1	2	0
Male (n = 22)	0	7	6	5	3	1
Ethnicity by Gender						
	White	African American	Latinx	Biracial	Asian or Pacific Islander	Other
Females (n = 9)	6	3	0	0	0	0
Males (n=22)	11	7	1	3	0	0
Sport Team by Gender						
Females (n = 9)			Males (n = 22)			
Field Hockey = 2			Football = 10			
Basketball = 3			Soccer = 1			

Table 4.1 Continued

Cheerleading = 1	Basketball = 1
Track and Field = 3	Track and Field = 4
Softball = 0	Baseball = 2
Golf = 0	Wrestling = 3
Lacrosse – 0	Lacrosse – 0

The Perceived Stress Scale-10 (PSS) is a self-report stress assessment used to measure how much participants view their life as uncontrollable, unpredictable, and overloading. The PSS measures an individual's subjective degree of stress based on an appraisal of experiences over the previous month. The 10-item questionnaire is constructed with six negatively stated and four positively stated items. The positively stated items are reverse coded before items are summed, with higher scores indicating more perceived stress. The response set ranges from 0 (never) to 4 (very often). Items are rated using a 5-point Likert scale with a possible total score falling between 0 and 40 (higher scores indicating higher ratings of stress). Scores ranging from 0 to 13 are considered low stress. Scores ranging from 14 to 26 are moderate , and scores ranging from 27 to 40 are high perceived stress. The mean score for the sample is 13.6 (range = 4-22, STD = 3.94) which is in the low to moderate range (Table 4.2).

Analysis of PPS scores by demographic variables reveals differences (Table 4.2) within the demographic groups. Non-White student-athletes and student-athletes ages 21 to 23 report higher levels of perceived stress in the moderate stress levels. The non-White mean score is 15.6, and the age 21 to 23 mean score is 15.00 both above the total sample mean of 13.6.

Table 4.2. Perceived Stress Scale Sample and Demographic Group Item and Total Mean Scores

Item	Total (31)	Male (22)	Female (9)	White (17)	Non-White (14)	Age 18-20 (19)	Age 21-23 (12)
In the last month, how often have you been upset because of something that happened unexpectedly?	1.46	1.50	1.56	1.58	1.16	1.55	1.16
In the last month, how often have you felt that you were unable to control the important things in your life?	1.21	1.21	1.23	1.22	1.16	1.00	1.5
In the last month, how often have you felt nervous and "stressed?	1.96	1.74	2.44	1.88	2.16	2.22	2.00
In the last month, how often have you felt confident about your ability to handle your personal problems?	1.25	1.15	1.44	1.17	1.33	1.44	1.33
In the last month, how often have you felt that things were going your way?	1.54	1.47	1.44	1.58	1.33	1.66	1.66
In the last month, how often have you found that you could not cope with all the things that you had to do?	1.10	1.15	1.11	1.35	1.20	1.00	1.33
In the last month, how often have you been able to control irritations in your life?	1.28	1.36	1.55	1.41	1.42	1.11	1.33
In the last month, how often have you felt that you were on top of things?	1.39	1.26	1.33	1.35	1.25	1.22	1.50
In the last month, how often have you been angered because of things that were outside of your control?	1.54	1.42	2.00	1.41	1.58	1.55	1.50
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	.93	.79	1.22	1.17	.75	.77	1.33
	Mean 13.6 STD 3.94	Mean 13.5 STD 4.15	Mean 13.8 STD 3.45	Mean 13.4 STD 3.66	Mean 15.6 STD 4.49	Mean 13.66 STD 3.33	Mean 15.00 STD 2.76

The sample is dominated by males (22) and White (17) students, which skews the sample mean and potentially under-reports the demographic group's stress level. Analysis of the demographic group response patterns reveals consistent diversion on particular items. Most notable for the male and female group are items 3, 9, and 10 (Figure 4.1) and for the White and non-White items 1, 3, and 10 (Figure 4.2). For the age 18 to 20 and 21 to 23 groups, the overall pattern is more distinct with diversion on a number of items (Figure 4.3).

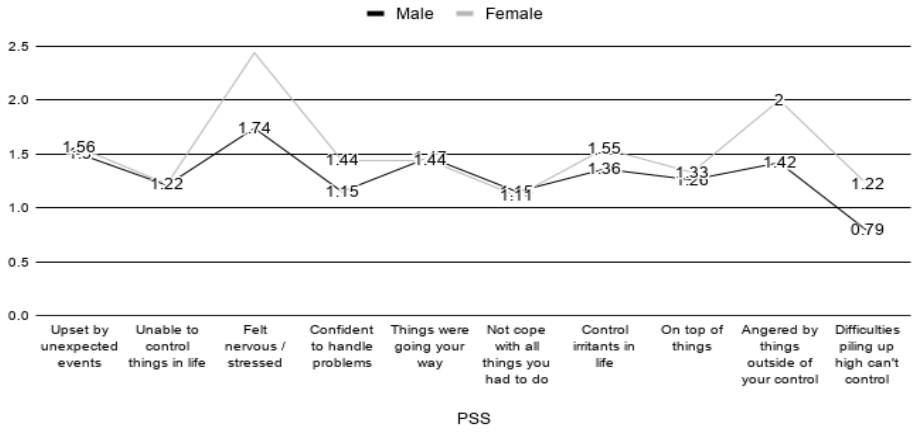

Figure 4.1 Male and Female Item Mean Score Distribution

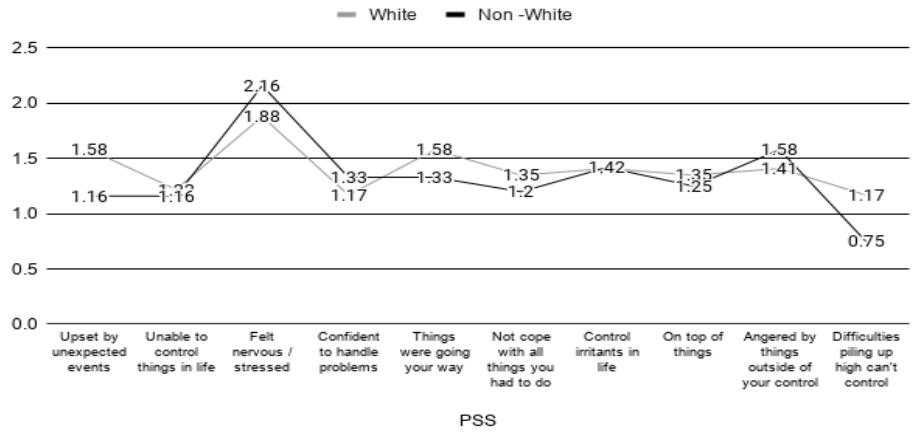

Figure 4.2. Race – White and Non-White Item Mean Score Distribution

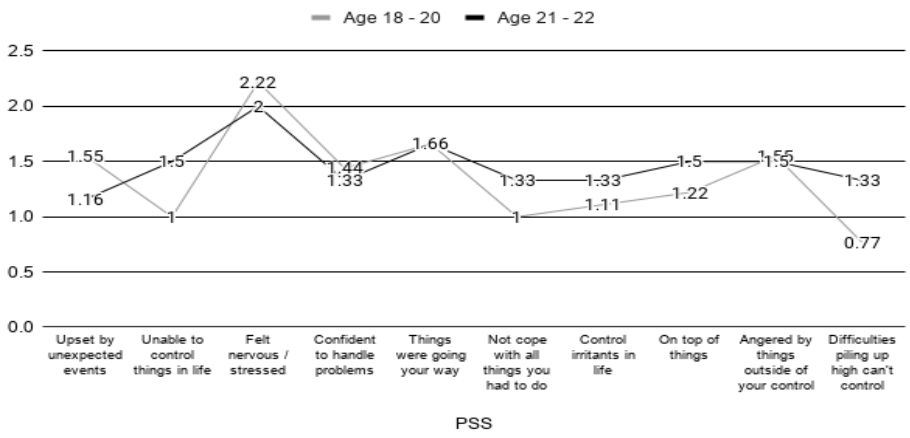

Figure 4.3. Age Item Mean Score Distribution

Alternative analysis structures of the PSS are found in the literature. For example, the two-factor structure analysis of the PSS includes one-factor that is grouped by negative wording of items (non-reverse-worded scoring), and a second factor that is grouped by positive wording of items (reverse-worded scoring). Some researchers have theorized that the negative-worded factor measures perceived helplessness or negative stress, and that the positive-worded factor measures perceived self-efficacy or positive stress (Santiago et al., 2019). Despite robust empirical support for a two-dimensional structure, the factor distinction has been regarded as superficial and not meaningful, and a single summed PSS score is most often used in research and clinical contexts. One alternative to a two-factor model, a bi-factor model, can determine whether the PSS is sufficiently unidimensional to support the use of an overall score while allowing for additional specific variance resulting from reverse worded items. A bi-factor uses the single score model of the PSS and the total mean scores of the positive wording of items (reverse-worded scoring). Table 4.3 shows the mean scores of the positive wording items for the total sample and demographic groups.

Table 4.3. Perceived Stress Scale Positive Wording of Items (Reverse-Worded Scoring) Sample and Demographic Group Item and Total Mean Scores

Item	Total (31)	Male (22)	Female (9)	White (17)	Non-White (14)	Age 18-20 (19)	Age 21-22 (12)
In the last month, how often have you felt confident about your ability to handle your personal problems?	1.25	1.15	1.44	1.17	1.6	1.44	1.3
In the last month, how often have you felt that things were going your way?	1.54	1.47	1.44	1.58	1.5	1.66	1.5
In the last month, how often have you been able to control irritations in your life	1.28	1.36	1.55	1.41	1.6	1.11	1.66
In the last month, how often have you felt that you were on top of things?	1.39	1.26	1.33	1.35	1.4	1.22	1.16
	Mean 5.43 STD 1.27	Mean 5.55 STD 1.38	Mean 5.77 STD 1.13	Mean 5.47 STD 1.31	Mean 6.1 STD 1.57	Mean 5.66 STD 1.24	Mean 5.66 STD 1.49

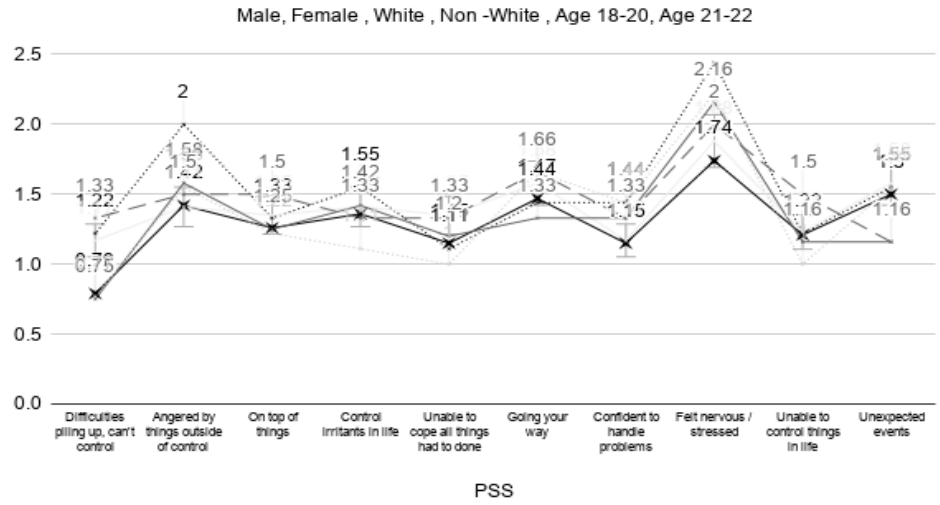

Figure 4.4. Composite Gender, Race, Age, Demographic Items Mean Score Distribution

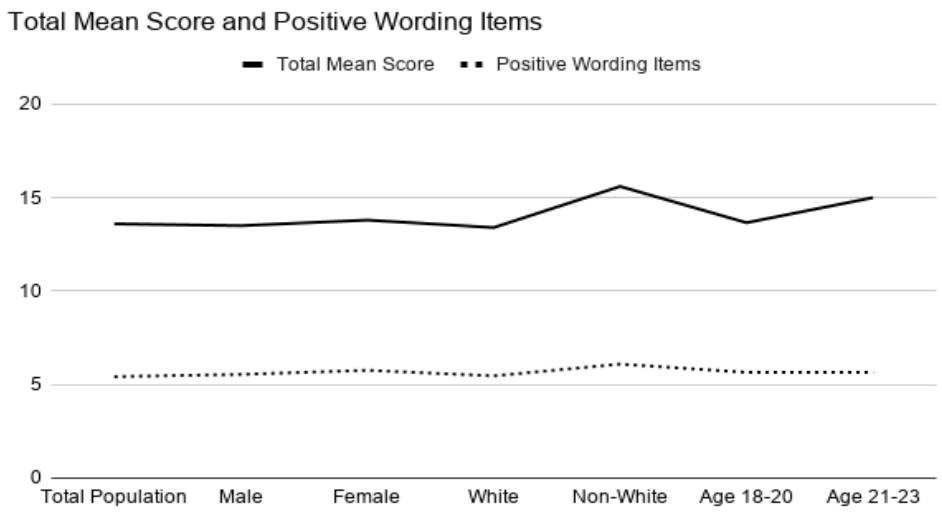

Figure 4.5. PSS- Bi Factor Mean Scores -Total Population and Demographic Variables of Gender, Ethnicity, and Age

The U.S. Adult Food Security Survey Module contains questions that measure food security status with a 10-item survey. Questions are ordered by severity and attribute experiences and behaviors to insufficient resources to acquire food over the past 12 months. Affirmative responses to the 10 items are summed to create a total score. Food security categories are assigned according to the U.S. Department of Agriculture's Adult Food Security guidelines: high food security (score of 0), marginal food security (score of 1 to 2), low food security (score of 3 to 5), and very low food security (score of 6 to 10). Per U.S. Department of Agriculture definitions, high food security refers to individuals who have no issues or anxiety about consistent food access. Marginal food security refers to individuals who may have worries about their food running out, but the quality and quantity of foods consumed is unaffected. Low food security refers to individuals who may have reduced the quality or diversity of foods consumed, but the quantity of foods consumed is unaffected. Very low food security refers to individuals with disrupted quality,

quantity, and diversity of foods consumed as a result of insufficient resources. Food insecurity references both categories of low and very low food security.

Analysis reveals that the students experience high food security to very low food security (Table 4.4). Nearly one-third (30 percent) of the students reported high food security. High food security can be found among all of the demographic groups. Likewise, about one-third (32 percent) of the students report marginal food security. The most notable variation in the distribution of students in this category was younger students' tendency to report marginal food security. Almost 40 percent of the students experience low and very low food security. Predominantly older White male students report very low food security while younger students tended to report low food security.

Table 4.4. U.S. Adult Food Security Categories Total Sample and Demographic Groups

	Total (31)	Male (22)	Female (9)	White (17)	Non-White (14)	Age 18-20 (19)	Age 21-23 (12)
High Food Security 0	9 (29%)	7 (32%)	2 (22%)	6 (35%)	3 (21%)	5 (26%)	4 (33%)
Marginal Food Security 1-2	10 (32%)	6 (28%)	4 (44%)	4 (23%)	6 (43%)	9 (47%)	1 (8%)
Low Food Security 3-5	7 (23%)	5 (22%)	2 (22%)	4 (23%)	3 21%	5 (26%)	2 (16%)
Very Low Food Security 6-10	5 (16%)	4 (18%)	1 (11%)	3 (18%)	2 (14%)	0 (0%)	5 (42%)

Male students have higher mean scores (2.72) when compared to females (2.20) and are more likely to experience food insecurity. In addition, White student (2.38) mean scores result in marginal food security compared to non-white student (3.11) low food security. Lastly, younger students (2.12) were much less likely to experience very low food security compared to older

students (4.62). Older students are more likely to live off campus in their own housing and skip out on meal plans to save on cost.

Table 4.5. U.S. Adult Food Security Question Means Total Sample and Demographic Groups

Item	Total (31)	Male (22)	Female (9)	White (17)	Non-White (14)	Age 18-20 (19)	Age 21-23 (12)
Since the beginning of the academic year, I have consumed.	.50	.61	.30	.44	.66	.62	.83
I worried whether my food would run out before I got money to buy more.	.35	.38	.33	.38	.30	.25	.50
The food that I bought just didn't last.	.32	.38	.22	.27	.40	.37	.48
I didn't have money to get more.	.46	.50	.44	.50	.40	.30	.50
I couldn't afford to eat balanced meals.	.34	.33	.44	.33	.40	.37	.60
Cut the size of your meals or skip meals because there wasn't enough money for food?	.14	.11	.22	.11	.33	.12	.30
Eat less than you felt you should because there wasn't enough money for food?	.14	.16	.11	.16	.11	.11	.30
Hungry but didn't eat because there wasn't enough money for food?	.17	.27	.11	.22	.11	.11	.30
Since the beginning of the semester, did you lose weight because there wasn't enough money for food?	.14	.11	0	.05	.22	0	.30
Since the beginning of the semester, did you ever not eat for a whole day because there wasn't enough money for food?	.03	.05	0	.05	0	0	0
	Mean 2.53 STD 2.66	Mean 2.72 STD: 2.88	Mean 2.20 STD 2.18	Mean 2.38 STD 2.38	Mean 3.11 STD 3.10	Mean 2.12 STD .92	Mean 4.62 STD 3.38

Examining the individual questions reveals that since the beginning of the academic year (Table 4.6), 58 percent of the students reported having enough of the foods they wanted to eat. Another 39 percent reported having enough but not always the kinds of foods they wanted, and 3 percent reported sometimes not having enough to eat. Over 64 percent of the participants reported never having to worry about food running out before they had money to buy more, 25 percent stated this was sometimes true, and 10 percent reported this was often true. The majority of participants (67 percent) indicated that since the beginning of the semester, food that was bought just didn't last wasn't a concern, while 25 percent reported this was somewhat true and 6 percent stated this was often true. Unfortunately, only a little over half (58 percent) of the students reported they always had money to buy more, 35 percent reported they sometimes did, and 6 percent never had money to buy more. However, the majority of the students (70 percent) reported they could afford balanced meals, 25 percent reported this was sometimes true, and 3 percent reported this was never true. Cutting the size of meals and/or skipping meals was not common; 90 percent reported never doing this, while 10 percent sometimes did and 0 percent never did. Eating less than one should was not common; 87 percent reported that was never true, 12 percent reported sometimes true, and 0 percent stated never true. The majority of the students (87 percent) reported never not eating because there wasn't money for food; 12 percent reported sometimes true, and 3 percent reported this was never true.

Table 4.6. U.S. Adult Food Security Questions Results for the Total Population (n= 31) – Item Percentages with Actual Number

Item	Percentage (actual number) *Enough, of the foods I want to eat.*	Percentage (actual number) *Enough, but not always the kinds of food I want.*	Percentage (actual number) *Sometimes, not enough to eat.*
Since the beginning of the academic year, I have consumed.	18 (58%)	12 (39%)	1 (3%)
Item	Percentage (actual number) *Never True*	Percentage (actual number) *Sometimes True*	Percentage (actual number) *Often True*
I worried whether my food would run out before I got money to buy more. Is this never true, sometimes true, or often true for you since the beginning of the semester.	20 (64.41%)	8 (25.80%)	3 (10.00%)
Which of these statements best describes the food eaten since the beginning of the semester? The food that I bought just didn't last.	21 (67.74%)	8 (25.81%)	2 (6.45%)
Which of these statements best describes the food eaten since the beginning of the semester? I didn't have money to buy more.	18 (58.06%)	11 (35.48%)	2 (6.45%)
Which of these statements best describes the food eaten since the beginning of the semester? I couldn't afford to eat balanced meals.	22 (70.97%)	8 (25.81%)	1 (3.23%)
Since the beginning of the semester, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?	28 (90.03%)	3 (10.00%)	0 (0.00%)
Since the beginning of the semester, did you ever eat less than you felt you should because there wasn't enough money for food?	27 (87.10%)	4 (12.90%)	0 (0.00%)
Since the beginning of the semester, were you ever hungry but didn't eat because there wasn't enough money for food?	27 (87.10%)	4 (12.90%)	1 (3.23%)
	Percentage (Actual Number) No		Percentage (Actual Number) Yes
Since the beginning of the semester, did you lose weight because there wasn't enough money for food?	28 (90.32%)		3 (9.68%)

Table 4.6 Continued

Since the beginning of the semester, did you ever not eat for a whole day because there wasn't enough money for food?	30 (96.77%)	1 (3.23%)
Have you heard of the Griffin's Food Locker?	10 (32.26%)	21 (67.74%)
Have you ever visited the Griffin's Food Locker?	28 (90.32%)	3 (9.68%)

Questions are ordered by severity and attribute experiences and behaviors to insufficient resources to acquire food over the past 12 months (Figure 4.6). The severity of food insecurity is documented with only a little over half of participants reported having enough of the foods they wanted to eat. Next, half reported having enough food but not the kind they wanted, and some reported not having enough to eat. A little over half of participants reported never having to worry about food running out, while a quarter of students reported this was only partially true and others reporting that this was never true. Only half of students reported having money to buy more food, while over one-fourth of students reported they sometimes did. Over a quarter of the students reported sometimes to never eating balanced meals. Fortunately, cutting meals or skipping meals was not common among this group of athletes. In addition, eating less than one should and not eating because there wasn't money for food was also not common.

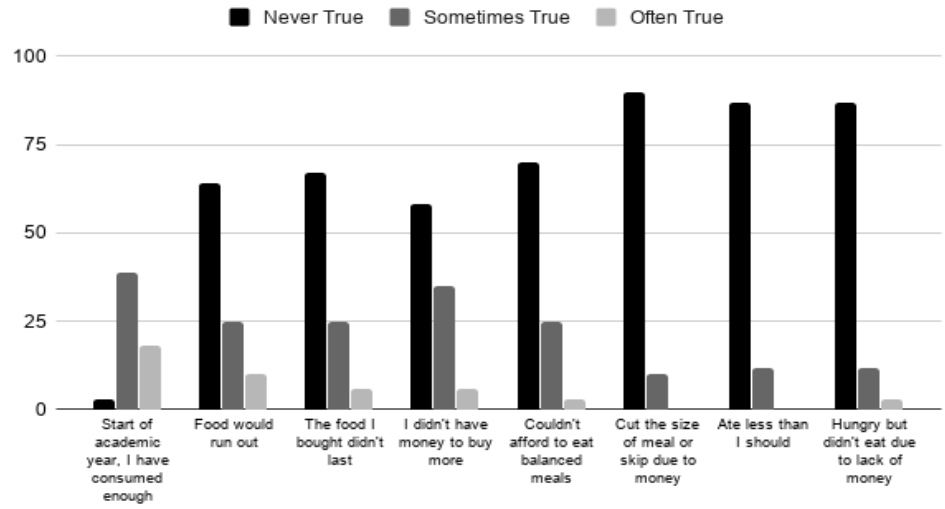

Figure 4.6. Higher Order (More Food Insecurity) Item Distribution Total Population (n=31)

To address student food insecurity, the University opened the Griffin's Food Locker in 2018. Two survey questions examined students' food locker knowledge and use. Two-thirds (67 percent) of the students heard of the Griffin's Food Locker. However only 10 percent of the students visited the food locker (Table 4.6), 95 percent (18) among the age group of 18- 20-year-olds and, 62 percent (8) among the 21-23-year-old age group. A higher percentage of females, 88 percent (8), than males, 68 percent (15), and a higher percentage of non-White participants 94 percent (13) than White participants, 76 percent (13) had heard of the locker.

While many participants had heard of the food locker, not many visited the pantry. Only 4 percent (3) of males and 11 percent (1) of females visited the pantry. In addition, a smaller percentage of White participants, 12 percent (2), compared to 14 percent (2) of non-White participants visited the pantry. Lastly, 5 percent (1) of participants aged 18 to 20 versus 23 percent (3) of participants age 21-23 received items from the pantry.

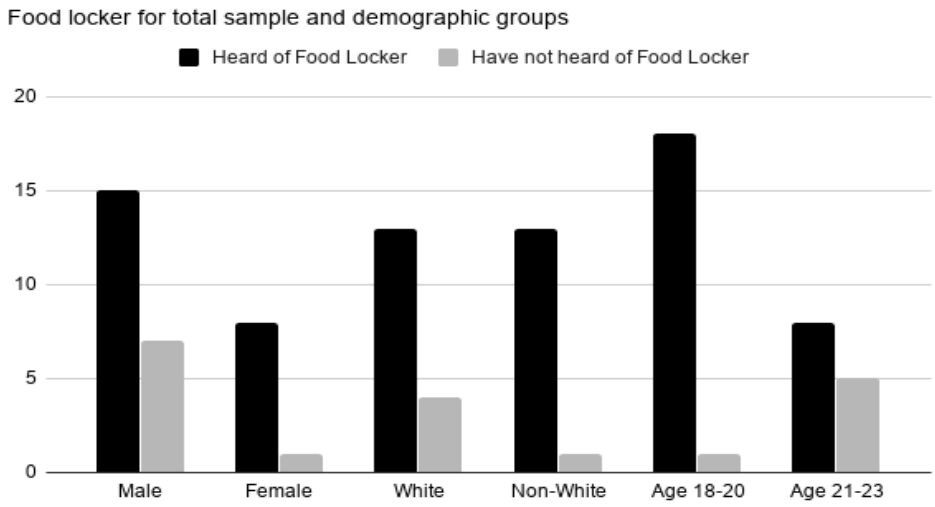

Figure 4.7. Food Locker Knowledge by Demographic Groups

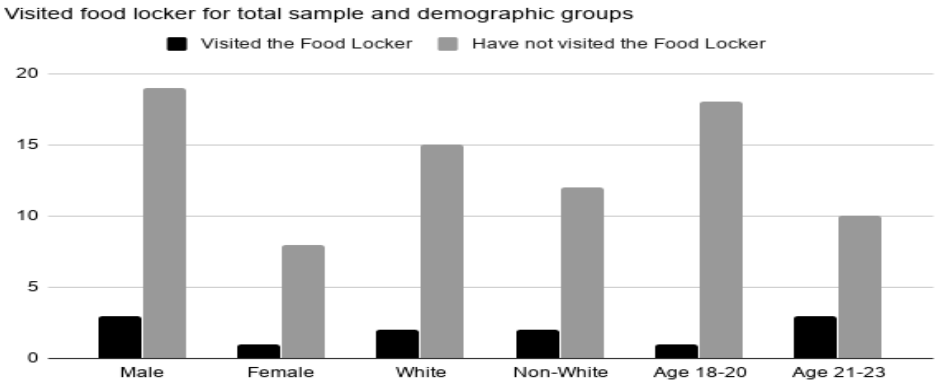

Figure 4.8. Food Locker Visits by Demographic Groups

The Epworth Sleepiness Scale (ESS) is the most widely used tool to estimate the subjective symptom of daytime sleepiness. Respondents are asked to use a scale of 0 to 3 to estimate their likelihood of dozing in eight different situations in recent weeks. The individual scores are summed, and possible scores range from 8 to 24. The response set is 0 (would never doze) to 3 (high chances of dozing), and the final score is the total of all the individual scores. A score greater than 18 indicates excessive daytime sleepiness. Scores of 0 to 10 = indicate normal range of

sleepiness in healthy adults, 11 to 14 = mild sleepiness, 15 to 17 = moderate sleepiness, and 18 to 24 = severe sleepiness. The ESS scores all of the students report normal sleepiness (Table 4.7).

Table 4.7. Epworth Sleepiness Scale Sample and Demographic Groups

	Total	Male	Female	White	Non-White	Age 18-20	Age 21-23
Normal sleepiness	31 (100%)	22 (100%)	9 (100%)	17 (100%)	14 (100%)	19 (100%)	12 (100%)
Mild sleepiness	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Moderate sleepiness	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Excessive sleepiness	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Examining the ESS mean scores (Table 4.8) reveals a total sample mean of 5.57 (normal range of sleepiness). However, females have a higher mean score of 6.0 compared to males at 5.17. In addition, White participants have a lower mean score of 5.38 compared to non-White participants' mean score of 5.9. Lastly, younger participants ages 18-20 have a higher mean, 6.44 compared to older students, 5.33.

Table 4.8. Epworth Sleepiness Scale Questions Sample and Demographic Group Item and Total Mean Scores

Item	Total (31)	Male (22)	Female (9)	White (17)	Non-White (14)	Age 18-20 (19)	Age 21-23 (12)
Sleeping and reading	.96	.88	1.09	.94	1.00	1.22	.83
Watching TV	1.00	1.00	1.00	1.05	1.00	1.00	1.16
Sitting, inactive, in a public place (e.g., in a meeting, theater or dinner event)	.25	.29	.18	.16	.40	.22	.40

Table 4.8 Continued

As a passenger in a car for an hour or more without stopping for a break	1.00	.88	1.09	1.00	1.00	1.11	1.00
Lying down to rest when circumstances permit	1.64	1.47	1.81	1.5	1.81	1.66	1.8
Sitting and talking to someone	.035	0	.09	0	.10	.11	0
Sitting quietly after a meal without alcohol	.64	.47	.81	.66	.60	1.11	.33
In a car, while stopped for a few minutes in traffic or at a light	.07	.12	0	.11	0.00	0.00	0.00
	Mean 5.57 STD 1.42	Mean 5.17 STD: 1.29	Mean 6 STD 1.47	Mean 5.38 STD 1.41	Mean 5.9 STD 1.37	Mean 6.44 STD 1.16	Mean 5.33 STD 1.37

Semi-structured interviews were designed to facilitate and support students' completion of the three instruments. The questions were general with no prior knowledge expectations for the survey responses. Students expressed a need to work more to understand and cope with daily stress. A non-White older student expressed, "No, I don't go to the counseling center if I have a problem. I just talk to my teammates or coaches. They understand and know what's up. They understand what we experience day to day." Supportive teammates and coaches are by far the most utilized stress coping mechanism. An older White student voiced, "A lot of times, I just play video games or work out with my teammates. It takes off the edge and lets off steam." A younger White student voiced, "I pray and focus on religion when things get really stressful in my life."

In addition, student-athletes conveyed an underutilization of the free counseling services that are offered at the University. Many athletes described not going to the counseling center for fear of the negative stigma often associated with counseling from their teammates and friends. Athletes felt they should be able to handle the pressure that comes with the cost of being a Division II athlete and that their teammates would view them as weak. However, could it be possible to

have former athletes in their respective sports or even some possible alumni speak to current athletes about the benefits and importance of counseling and mental health? Perhaps they could highlight techniques on how to deal with stress and anxiety from trying to handle the stress of being a full-time student with a packed academic schedule, being an athlete, and trying to be social.

Food insecurity is also an important issue. Some students reported high food security with access and availability of food choices. However, more common was marginal, low, and very low food security. An older White international student stated,

I have 11 meals a week and no flex. It doesn't provide me enough to feel full. I wish I had a food plan with 19 meals a week. But I keep it at 11 meals a week to keep the cost down.

An older non-White athlete stated, "No, I don't have a meal plan; my teammates give me their extra swipes, but I am hungry a lot of the time because it is not enough."

Several students reported not knowing the location or hours of the Food Locker in addition to the process on how to receive the food. One theme repeated by the participants was that there were other students that needed the free food and services more. A White younger student stated, "I heard of the Food Locker during my Setonian Day orientation." However, many of the older and transfer students had never heard of the Food Locker. Another White older student stated, "I would visit the food locker for sure, now that I know where it is and the hours, especially since I am moving off campus next year."

In the interviews, many athletes reported sleep pods, nap rooms, athlete-only dorms, white noise machines, and black out curtains could help with increasing their productivity with early morning practices, late night game returns, and demanding homework schedules. An older non-White student stated, "Having a bigger mattress would be ideal; I am 6'5 and it's tough to fit on

these small mattresses. My family doesn't have the extra money to buy me a mattress topper like some of my friends have." Another White older student expressed:

I am a full-time athlete and student; I work a night job to get some money to help my family at home. When I return in the morning, I have a hard time sleeping because I can hear everything in the dorms. I wish I had a white noise machine or even blackout curtains.

5.0 Discussion

5.1 Conclusions

First–generation college student-athletes experience low to moderate levels of stress with variations among demographic groups. Food insecurity is a concern for a large segment of first-generation college student-athletes. Daytime sleepiness does not appear to be a health concern among the student-athletes, but students did express sleep health quality and habit needs.

First -generation student-athletes experienced low to moderate stress. In particular, non-White student-athletes and student-athletes ages 21 to 23 report higher levels of perceived stress in the moderate stress levels compared to younger White athletes. Previous research reveals that first-generation students often do not have parents who are able to help them navigate the college environment (Garriott & Nisle, 2018). As a group, they have less "generational" or "cultural capital" passed on to them, particularly less college-specific informational and emotional support from family and friends (Barry et al., 2009). While this study did not compare first-generation to non-first-generation students, it did align with previous research findings. Student-athletes of all ages, races/ethnicities, and genders expressed that they knew how to handle their stress.

Food insecurity is the limited or uncertain availability of nutritionally adequate, safe foods, or the inability to acquire personally acceptable food in socially acceptable ways. One-third (30 percent) of the participants reported high food security. High food security can be found among all of the demographic groups. Likewise, about one-third (32 percent) of the students report marginal food security. The most notable variation in the distribution of students in this category was younger students who tended to report marginal food security. Overall, almost 40 percent of

the students experience low and very low food security. Predominant among students reporting very low food security are older White male students, while younger students tended to report low food security. The is consistent with research from the American College Health Association's annual National College Health Assessment (NCHA, 2019) survey, which indicated across studies that food insecurity is more common among students who are financially independent, care for dependent children, younger, and from racial/ethnic minority groups. The current findings are consistent with reports that food insecurity among college students is not equally distributed. Reports indicate that many subsets of students are at risk for food insecurity, from veterans and graduate students to first-generation students and students experiencing personal emergencies (Cady, 2016). The issues of food insecurity are of growing concern among institutions of higher learning in the United States. In addition to studies on the prevalence and risk factors, research is needed to better understand the mechanisms by which food insecurity affects students' health and well-being.

The Griffins Food Locker was established in 2018 in recognition of students' food insecurity. More females than males, more non-White participants than White participants, and younger than older students heard of the locker. Far fewer students reported visiting the pantry. Data on utilization of the food locker was not gathered. New students are given an orientation of all resources available on campus, including the food locker, during their freshman welcome week.

Daytime sleepiness was not reported as a health concern among the students. However, during the student interviews, students did express sleep health quality and habit needs. Students reported interest in sleep education and resources to increase their sleep quality. Improving first-generation college student-athletes' sleep habits and quality is a health concern that can be addressed in future programming. Examples of sleep health program components include

individualized e-mail feedback based on students' baseline sleep diary and in-person group presentations on sleep health (Levenson et al., 2016).

5.2 Strength and Limitations

A strength of the study is that it identifies variations in the needs of first-generation students and student-athletes. It supports the need for support systems to be in place at Division II universities, not just on Division I. Another strength of the study was the individual narratives collected from each student-athlete. I knew many of the students and their teammates from teaching and advising undergraduate students throughout the University. Having an open conversation with each student provided insights into the students' concerns.

A study limitation is its location at a small private liberal arts school in Western Pennsylvania. While the study included White, Black, and Lantinx students, there were only small samples that represented each group. Males and females were both documented as well as age groups 18-20 and 21-23 years old. Analysis was not completed by team membership. The ability to compare and contrast team members as well as the other demographic categories could help identify team specific needs.

Finally, the inquiry was completed prior to the pandemic. The impact of the pandemic on the students (e.g., school closure and athletic program suspension) is unknown. The pandemic highlighted and intensified inequities that negatively impact first-generation student-athletes. Likewise, the original inquiry design included university administrator interviews to obtain input for university health policy improvements in the area of stress, food insecurity, and sleep. The pandemic interpreted the interview process, and the administrator data was not collected.

5.3 Implications for Future Inquiry

Future inquiry on first-generation college student-athletes will benefit from three future considerations.

5.3.1 Different Sleep Measures

Although the results from the Epworth Sleepiness Scale did not reflect sleep disturbances and deprivation among the participant interviews, another survey, such as the Pittsburgh Sleep Quality Index (PSQI), may have provided different results. The PSQI is a self-reported questionnaire that assesses sleep quality and sleep disturbances over the past month. The PSQI can detect insomnia symptoms and fatigue complaints and serves as an accurate diagnostic screening tool for insomnia in college students. The Epworth Sleepiness Scale is also a subjective measure of daytime sleepiness but did not produce usable data for program improvement. Based on the results of the semi-structured interviews, a different representation was revealed when students were asked to rate their sleep habits.

5.3.2 University Administrator Interviews

Due to the COVID-19 pandemic, policy and structural changes impacted the researcher's ability to interview key members of the Seton Hill leadership and administration team. However, further inquiry will be conducted with four key informant interviews with the Seton Hill University leadership team members in order to access administrators' viewpoints. The interviews will be conducted on campus, recorded, and transcribed. No demographic or identifying information of

the leadership team will be collected to provide confidentiality and anonymity. Key questions will cover benefits of the student health program on campus, university policies set in place to support it, and barriers that impact health services in addressing students' health needs. Finally, the leadership team members will be asked to identify two small actions that the university can take to improve student health services and how best to engage faculty to promote the health of student-athletes and, in particular, first-generation college student-athletes.

5.3.3 Demographic Group Differences to Inform Programs that Meet Student Needs

Demographic group disparities in health status are compounded by reduced access to services. A review of the University health services is recommended for demographic groups including the first-generation college student-athletes and team memberships. Examining campus health services will provide insights on current policies, structures, and practices so the entire campus community can benefit from an informed context for programs and services for specific demographic groups.

5.4 Implications for Practice at Seton Hill University

Drawn from the current assessment are three implications for practice at Seton Hill University and other small private universities to improve the health and wellbeing of first-generation college student-athletes in the areas of students' stress, food insecurity, and sleep.

5.4.1 Demographic Group Variations to Inform Program Planning

A major finding from the current inquiry is that student needs vary. Creating a menu of resources, support, and trainings for faculty, staff, and the student-athletes will lend to addressing first-generation college student-athletes' health needs. It is recommended that coaching staff lead such efforts since team member composition of first-generation college student-athletes varies by the team (Table 1.1). Furthermore, a student-athlete advisory board could work on addressing student-athlete health needs. A special focus can be first-generation student college athletes. Based on the student interviews, such a board should support and engage students in their own health care as well as advocate to increase programs and services. The board would coordinate and oversee advocacy initiatives for meeting the basic needs of their students. In particular, the student-athlete board would use the available data on student-athletes' food insecurity to develop solutions.

5.4.2 Expanded Programming and Service Capacity in the Areas of Stress and Sleep

With increased knowledge and recognition of college students' health needs, there are more programs and services that small colleges and universities can use to model and scale to their campuses to keep costs low and increase the schools' capacity to implement stress and sleep programs. For example, the American College Health Association, NCAA, American College of Sports Medicine, and Society for Public Health Education have expanded their training and resources to support small colleges and universities. In the area of stress management, support is available to implement Reflection Rooms throughout campus to provide calm, relaxing, and peaceful spaces where students can relax, refocus, and unwind with resources like massage chairs,

hammocks, and bean bag chairs. Calming wall colors and dim lighting will be part of the décor. Likewise, a speaker series geared toward athletes on campus can include prevention and strategies to promote stress management, which could also prove beneficial in the area of sleep. Resources such as white noise machines, ear plugs, small fans, and blackout curtains could help to mitigate unwanted sounds for the room or even in the hallway. Sleep masks to block any unwanted light and desk lamps to avoid overhead light usage when a roommate is sleeping would be offered to all student-athletes. Likewise, pillows, mattresses, and bedding that accommodate athletes could replace the current "one-size-fits-all" approach. To take advantage of the increased training and availability of resources, Seton Hill University administration, athletic department leadership, and campus health services as well as colleagues from regional small universities (e.g., Duquesne, Thiel, Slippery Rock, Grove City, and Washington and Jefferson) can form a collaborative to create an extended network for the work on the individual campuses as well as regionally.

5.4.3 Mobilization to Reduce Food Insecurity

Food insecurity needs expressed by the first-generation student-athletes differed from those expressed for stress and needs. Only one-third of the students reported high food security. Two-thirds of the students need programs and services. The Griffin Food Locker is a start to address student needs. Next is to establish a link to community food banks, pantries, food recovery programs, and building campus community gardens. This is another area where partnering with regional small colleges and universities might add support and networking to build capacity. Off-campus food resources are not always accessible, as students may not meet community-based agency requirements or may incur transportation costs if resources are not nearby. One option is to explore meal plan swipes for Seton Hill students. Some students may have leftover points in

their meal plans towards the end of the academic year. Because many universities do not allow students to share or donate their meal swipes to peers in need, some students have developed mobile applications or websites to donate or share meals. For example, Swipe Out Hunger is a student organization enabling students to use their extra meal swipes to purchase meals for others. The Massachussett Institute of Technology SwipeShare (MIT, 2020) is a model program. At Seton Hill, the Griffin Gate, or SHINE (Student Life Portal) website could embed such a program as internal links can enable students to sign up to donate or share their meals with a fellow student. An extension of meal sharing is to establish a campus food recovery program to collect unused food from campus dining halls and campus events to be repurposed intro ready-to-eat meals that can then be donated to the Griffin's Locker. Potential partners for such campus food recovery initiatives are community food resource programs such as the Western Pennsylvania 412 Food Rescue Program as well as community food banks. Finally, the student-athlete advisory board can make it a board priority to advocate to expand eligibility for the Federal Supplemental Nutrition Assistance Program (SNAP) and the National School Lunch Program (NSLP) to include college students. A model for the advocacy effort is California State University's implementation of a system to accept CalFresh (SNAP) electronic benefit transfer cards (EBTs) across their 23 campuses. Seton Hill University can do more to help students navigate and access government food assistance programs to supplement their financial aid. As part of such an initiative, the school would develop and implement strategies to decrease the stigma that may prevent students from accessing needed resources to alleviate food insecurity on campus.

Appendix A Consent Form

CONFIDENTIALITY

Your responses to this survey will be anonymous. Please do not write any identifying information on your survey. This includes information like your name, nicknames, birth date, or any other personal information. To preserve your confidentiality, the following protocols will be followed:

- Assigning code numbers for participants that will be used on all research notes and documents.
- Keeping notes, interview transcriptions, and any other identifying participant information in a locked file cabinet in the personal possession of the researcher.

Participant data will be kept confidential except in cases where the researcher is legally obligated to report specific incidents. These incidents include, but may not be limited to, incidents of abuse and suicide risk.

CONTACT INFORMATION

If you have questions at any time about this study, or you experience adverse effects as the result of participating in this study, you may contact Principal Investigator Tracy Bowman at tbowman@setonhill.edu. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary Investigator, please contact the Institutional Review Board at irb@setonhill.edu.

VOLUNTARY PARTICIPATION

Your participation in this study is voluntary. In order to participate, you must be a full time, first-generation student - athlete. No minors will be permitted to partake in the study. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign this consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be not used and will be kept in a locked and secure location and destroyed at a later time.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. By signing this consent form, I am verifying that I am over the age of 18 years old and that I am a full time, first-generation student - athlete. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Do you agree?

Appendix B Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by marking how often you felt or thought a certain way.

Age _____ Gender (Circle): M F Other _____

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?.....0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life?..... 0 1 2 3 4

3. In the last month, how often have you felt nervous and "stressed"? ……..... 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your personal problems?..... 0 1 2 3 4

5. In the last month, how often have you felt that things were going your way?.....0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things that you had to do? 0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life?.....0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things?.....0 1 2 3 4

9. In the last month, how often have you been angered because of things that were outside of your control? 0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?..... 0 1 2 3 4

Appendix C U.S. Adult Food Security Survey

The questions in this scale ask you about food insecurity since the start of the semester. In each case, you will be asked to indicate how often you felt a certain way.

Question #1: Since the beginning of the academic year, I have consumed.	*Enough, of the foods I want to eat.*	*Enough, but not always the kinds of food I want.*	*Sometimes, not enough to eat.*
Question #2: I worried whether my food would run out before I got money to buy more. Is this never true, sometimes true, or often true for you since the beginning of the semester.	*Never True*	*Sometimes True*	*Often True*
Question #3: Which of these statements best describes the food eaten since the beginning of the semester? The food that I bought just didn't last.	*Never True*	*Sometimes True*	*Often True*
Question #4: Which of these statements best describes the food eaten since the beginning of the semester? I didn't have money to buy more.	*Never True*	*Sometimes True*	*Often True*
Question #5 Which of these statements best describes the food eaten since the beginning of the semester? I couldn't afford to eat balanced meals.	*Never True*	*Sometimes True*	*Often True*
Question 6 Since the beginning of the semester, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?	*Never True*	*Sometimes True*	*Often True*
Question #7 Since the beginning of the semester, did you ever eat less than you felt you should because there wasn't enough money for food?	*Never True*	*Sometimes True*	*Often True*
Question #8 Since the beginning of the semester, were you ever hungry but didn't eat because there wasn't enough money for food?	*Never True*	*Sometimes True*	*Often True*
Question #9 Since the beginning of the semester, did you lose weight because there wasn't enough money for food?	No		Yes
Question #10 Since the beginning of the semester, did you ever not eat for a whole day because there wasn't enough money for food?	No		Yes
Question #11 Have you heard of the Griffin's Food Locker?	No		Yes
Question #12 Have you ever visited the Griffin's Food Locker?	No		Yes

Appendix D Epworth Sleepiness Scale

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired? This refers to your usual way of life in recent times. Even if you have not done some of these things recently try to work out how they would have affected you. Use the following scale to choose the most appropriate number for each situation:

	Would never nod off 0	Slight chance of nodding off 1	Moderate chance of nodding off 2	High chance of nodding off 3
Sitting and reading				
Watching TV				
Sitting, Inactive, in a public place (e.g., in a meeting, theater or dinner event)				
As a passenger in a car for an hour or more without stopping for a break				
Lying down to rest when circumstances permit				
Sitting and talking to someone				
Sitting quietly after a meal without alcohol				
In a car, while stopped for a few minutes in traffic or at a light				

Appendix E Semi-Structured Interview Script

Introduction - Thank you for helping with my project. I am working to improve services for first-generation college student-athletes at Seton Hill.

Questions Column A	Column B
Are you familiar with the student health services on campus? Are there health services specifically for student-athletes?	Are there services you use and why? If you do not use the services why not?
How do you receive your food?	*A. Do you have a meal plan? Why or why not?* *B. Do you ever go to the Griffin's Food Locker? Why or why not?* *C. What food items do you wish the Griffin's Food Locker would provide?* *D. Do you have transportation to go off campus to buy groceries?*
What do you do to relieve stress?	*A. Does your team provide education on stress relief?* *B. Have you ever gone to the counseling center on campus? Why or why not?* *C. What preventive stress programs should be on campus?*
What are your sleep habits?	*A. Does your team provide education on sleep?* *B. What preventive sleep programs or resources should be on campus?*
Thank you for participating. I appreciate your time and help.	

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