COVID-19’s Influence on Mental Health Among Collegiate Student-Athletes

Jacob Balliu
Winona State University, jballiu15@winona.edu

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COVID-19’s Influence on Mental Health Among Collegiate Student-Athletes

A Thesis
Submitted to the Faculty
of the Department of Leadership Education
College of Education
of Winona State University

By
Jacob M. Balliu

In Partial Fulfillment of the Requirements
for the Degree of
Master of Science

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Abstract

The world was struck by turmoil as the COVID-19 virus surged to the surface. Affecting the lives of many. In a matter of days, the process of daily living got a new meaning. The new lifestyle of living consisted of wearing masks, self-quarantining for fourteen days, and socially distancing six feet apart. From the perspective of a college student, life was flipped upside down. Classes were moved online, and students were asked to not be on campuses across the country for months on end. Collegiate student-athletes had it much rougher. Due to the global pandemic multiple sport seasons were cancelled and any hope of post-season championship play was gone. Due to the circumstances of COVID-19, the mental health of collegiate-student athletes has been impacted. The research design was a mix of quantitative and qualitative data collected through a survey. The data from the study focused on pre-COVID-19 (fall of 2019) and during COVID-19 (fall of 2020) which can be documented as in-season and out-of-season for student-athletes. The study examined and identify if there are correlations between stress levels, GPA, credit load, and emotional state through the lens of anxiety and depression throughout the pandemic. As the COVID-19 pandemic had continued spreading mayhem, the student-athlete’s grades were stable compared with fall semester of 2019. Moreover, the results of anxiety and depression included that a large quantity of student-athletes experienced none or mild cases. In conclusion, student-athletes were precisely impacted in regard to mental well-being from the COVID-19 pandemic. Primarily from an academic and stress standpoint rather than anxiety and depression.
Chapter I – Introduction

Introduction

On March 11, 2020 the World Health Organization (WHO) announced the coronavirus (COVID-19) surge as a global pandemic (Cucinotta & Vanelli, 2020). It was a day that fear flourished into the lives of billions. The virus spread at an alarming rate leading people to isolation. The world was struck by shock as COVID-19 policies and procedures were being implemented left and right. As of March 2020, “our current understanding of the incubation period for COVID-19 is limited” (Cucinotta & Vanelli, 2020). Little information was known, as each day needs to be a step forward to get answers. The best advice the Centers for Disease Control and Prevention (CDC) can offer is to follow COVID-19 guidelines and everyday precautions. The future of the pandemic was unpredictable, but if everyone did their part, the spreading could decrease, and the faster life could go back to normal.

The coronavirus had become a serious threat to society; affecting the lives of so many around the world. One industry that took a major hit because of the global pandemic was the sports world. Seasons have been canceled, many have been left without a job and student-athletes are being forced to isolate from teammates and coaches. This study dove into the world of student-athletes and how COVID-19 had affected their mental well-being in regard to anxiety and depression. “Not all sports, however, impact mental health in the same way” (Pluhar et al., 2019). This introduction will present the basis of the study, describe the background of the problem, purpose of the study, significance of the study, limitations, delimitations, definitions and structure for how the study was designed.
Problem Statement

COVID-19 had rapidly become a major concern all over the world. The pandemic caused people to alter their daily lives. New policies and procedures were restricting people from going about their business. People were being forced to quarantine and social distance from their loved ones. COVID-19 has poured fear into the lives of so many. “Fear from the virus is spreading even faster than the virus itself” (Adhanom, 2020). The thought of what was going to happen next is exhausting as life was unpredictable at this point in time. As the pandemic carried on, mental health needs became a point of emphasis. There was little known about COVID-19 as is, but the burden it caused in people’s livelihood was astounding. There was a great deal of research in regard to mental health, but few studies have been done in connection to the pandemic.

Perhaps one of the safest decisions in regard to the safety of the public was to put a halt to sporting events. Putting thousands of people cheering and sitting right next to each other would not be ideal in slowing the spread of COVID-19. However, this may have led to more consequences other than COVID-19. The purpose behind a student-athlete is to perform at an elite level on the field and in the classroom. Due to these unforeseen circumstances, a student-athlete’s performance may be on a down spiral. The process of moving from a classroom environment to your room at home and learning on zoom is not ideal. Being forced to not see teammates and coaches is not how they thought their last several months would go. “Although the ‘new normal’ is continually evolving, one aspect of human life is now highly salient: social isolation can detrimentally affect mental health and well-being” (Graupensperger et al., 2020). All of these factors play a vital role in a student-athlete’s life and when you take those away it
can be crucial. This is why the mental well-being of student-athletes should be something that is not taken lightly, and protocols should be in place to ensure effective support for students.

**Purpose of the Study**

The purpose of this study was to determine how COVID-19 influenced the mental well-being of collegiate student-athletes. The COVID-19 pandemic has either canceled or postponed multiple events in our lives. An industry that took a big blow was sports. Without sports, student-athletes are put in a difficult situation mentally and physically. The research behind this study focused on student-athletes and coaches. The methodology will be a mix of quantitative and qualitative data collected through a survey. The data from the study focused on pre-COVID-19 (fall of 2019) and during COVID-19 (fall of 2020) which can be documented as in-season and out-of-season for student-athletes. The study will examine and identify if there are correlations between stress levels, GPA, and credit load throughout the pandemic. Also, student-athletes were given a questionnaire along with the survey about their mental health. The PHQ-9 Depression and GAD-7 Anxiety questionnaire were used from the Primary Care Evaluation of Mental Disorders (Anxiety and Depression Society of America, 2021) to measure their anxiety and depression levels. This research has helped build upon the knowledge of mental health through the eyes of collegiate student-athletes in a crisis.

**Background of the Problem**

In December of 2019 in Wuhan, China, the coronavirus came to life (Madabhavi et al., 2020). COVID-19 has vastly spread like wildfire ever since, starting in China and slowly making its way across the world, causing a fatal public health emergency. The virus had an incubation period from two to fourteen days (Madabhavi et al., 2020). It was thought that the virus may be
passed on due to the breathing of mutated droplets. Symptoms of the virus may include cough, sore throat, breathlessness, fatigue, diarrhea, chest pain, and loss of taste and smell. If contaminated, a person must go into quarantine. This stretch of isolation can be from friends, loved ones, etc. The safest practice was to social distance, wear a mask, and follow all COVID-19 protocols which include washing hands, cover coughs and sneezes, clean and disinfect, and monitor your health daily. Each day researchers and health professionals are finding out more about the disease.

**Research Questions**

The primary research questions were:

RQ 1: How COVID-19 has influenced the mental well-being among collegiate student athletes?

RQ 2: Does this relate to a positive or negative impact on student-athletes GPA, stress level, and credit load?

The research was collected from a mix of qualitative and quantitative data gathered through an online survey.

**Limitations**

This study was constructed to avoid as many limitations as possible. “No research design was perfect and free from explicit and implicit biases; however various methods can be employed to minimize the impact of study limitations” (Ross & Bibler, 2019). Participants of this study were asked to answer each question honestly and truthfully. Additionally, the participants of this study were guaranteed the anonymity of their identity. The participants had the option to withdrawal from the study at any time of their choosing.
**Delimitations**

Participation in this study was limited to current student-athletes who participated and were a part of a sports team in the fall of 2019 and fall of 2020. The study took place at a Division II university in the Midwest.

**Significance of the Study**

The results of this study may be significant to collegiate student-athletes and their support systems. The outcomes of this study may help create awareness for effective mental-health aid pre, during, and after a crisis situation. This study may encourage the implementation of new policies and procedures on mental health at the collegiate level with examples of how different techniques may be perceived in situations related to COVID-19 in the future.

**Definition of Terms**

*Anxiety:* A term that can be described as “distressing subjective experience, a symptom that can be reported to a health care professional, the hallmark of a group of diagnosable disorders (the DSM-5 Anxiety Disorders), and most recently a “qualifier” that can be added to the diagnosis of Major Depressive Disorder (MDD) in DSM-5” (Roy-Byrne, 2015). An example of how you may react to stress.

*COVID-19:* “An infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)” (Adhanom, 2020). A virus that was a threat to physical and mental health.
Depression: “A widespread chronic medical illness that can affect thoughts, mood, and physical health. It was characterized by low mood, lack of energy, sadness, insomnia, and an inability to enjoy life” (Cui, 2015).

Mental health: The World Health Organization (WHO) describes mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and was able to make a contribution to his or her community” (Galderisi et al., 2015).

Social distancing: The process of avoiding mass gatherings and maintain a distance of six feet from others when possible (Toresdahl & Asif, 2020). A term that can be linked to isolation.

Summary

Chapter One introduced the research being studied along with the information necessary to analyze the study of how COVID-19 has impacted the mental well-being among collegiate student-athletes at Winona State University. Additionally, Chapter One provided the basis of the study and outlined the background of the problem, purpose of the study, significance of the study, limitations, delimitations, definitions and framework for how the study was conducted. Chapter Two contains the literature review and examined significant research related to the study.
Chapter II – Literature Review

This study examined how COVID-19 has altered the mental health of student-athletes and the role it plays in their daily lives. “A sophisticated literature review can result in a robust dissertation/thesis by scrutinizing the main problem examined by the academic study, anticipating research hypotheses, methods and results, and maintaining the interest of the audience in how the dissertation/thesis will provide solutions for the current gaps in a particular field” (Leite et al., 2019). Chapter Two provided seven segments that relate to COVID-19 and the mental health issues that had risen. The first segment presented a search of terms table has been added for further research related to this study. The second segment gave a historical overview of the problem. The third segment provided the origin of the problem. The fourth segment contributed a glimpse of the methodology of the study and why it was chosen. The fifth segment dove into mental health and the lengthy history student-athletes have experienced. The sixth-segment discussed the short but forceful history of COVID-19. Lastly, to wrap up the literature review the seventh segment implemented insight on two of the most popular mental health conditions experienced by student-athletes, which are anxiety and depression.

Search of Terms table

<table>
<thead>
<tr>
<th>Concepts</th>
<th>COVID-19</th>
<th>Mental well-being</th>
<th>Student-athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keywords/Phrases/Synonyms</strong></td>
<td>Coronavirus</td>
<td>Mental disease</td>
<td>High School/College</td>
</tr>
<tr>
<td></td>
<td>Physical/Emotional health</td>
<td>Mental disorder</td>
<td>Male/Female athletes</td>
</tr>
<tr>
<td></td>
<td>Quarantine</td>
<td>Mental health</td>
<td>Sports (football, volleyball, soccer, etc.)</td>
</tr>
<tr>
<td></td>
<td>SARS-CoV-2</td>
<td>Mental illness</td>
<td></td>
</tr>
</tbody>
</table>
Historical Overview of the Problem

Mental health was and still is a major concern for society today. Millions of people were affected by a mental illness each year. According to the National Alliance on Mental Illness, “20.6% of U.S. adults experienced mental illness in 2019 (51.5 million people). This represents 1 in 5 adults.” This problem has slowly developed over time but now is on high alert as people are struggling with mental health at a much younger age. Additionally, the National Alliance on Mental Illness states, “50% of all lifetime mental illness begins by age 14, and 75% by age 24.” Not only is having a mental illness a concern itself in today’s age, but not many of those people affected are reaching out for help. Therefore, the National Alliance on Mental Illness claims that "43.3% of U.S. adults with mental illness received treatment in 2018.” This is a predominant problem for years to come. For the future, people need to have that comfort that it is okay to seek
help and not let fear override them. Seeking help for mental help is important for themselves and the people around them.

On March 11th, 2020 the World Health Organization (WHO) announced the coronavirus (COVID-19) surge as a global pandemic (Cucinotta & Vanelli, 2020). The wildly spread coronavirus has left people in self-isolation, social distanced, and quarantined. Precautions and procedures have been put in place to help slow the spread of the deadly virus. With that being said, COVID-19 has caused states and cities to go into lockdown. This means no inside seating at restaurants or bars, closed gyms, canceled sporting events, and if people go outside, they must obey all COVID-19 and city guidelines. “There are numerous mental health threats associated with the current pandemic and subsequent restrictions” (Fegert et al., 2020).

Student-athletes play a primary role in representing their school. “There are approximately 400,000 National Collegiate Athletic Association (NCAA) student athletes and 5-7 million high school student athletes competing each year. According to the US Department of Health and Human Services, the depression prevalence rate for young adults, which ranges from 10% to 85% across studies, is higher than that of other age groups” (Wolanin et al., 2016). With this alarmingly high rate, researchers have been looking for a way to limit the mental health issues adolescents are experiencing. “Research suggests that National Collegiate Athletic Association (NCAA) Division I student-athletes have higher levels of stress and other behavioral health issues, including substance use, than nonathletes” (Sudano et al., 2017). Mental health is an underlying issue that most, if not all student-athletes experience, whether it is truly deriving from the game or from life itself.

**Origin of the Problem**
“Coronavirus disease (COVID 19), which was started in Wuhan, China in December 2019 has become a pandemic, leading to unprecedented risk to the human race” (Patel et al., 2020). Within the past year, the world has been left without sports due to the lethal coronavirus. It is a dark time for athletes as they are left without a job and sports fans are unable to cheer for something they love. The mental health of these athletes is a major concern for the future. As time has passed, some states and cities have eased up on guidelines for COVID-19. In a world that has not seen much light, sports are slowly making their way back. In a time where every precaution was a must, sporting events were on high alert and need to follow all COVID-19 restrictions to happen.

Methodology

The data from this study will be collected from a cross sectional online survey given to student-athletes at a Division II university in the Midwest. Furthermore, additional data will be granted through interviews of coaches at this institution. “Survey research is a specific type of field study that involves the collection of data from a sample of elements drawn from a well-defined population through the use of a questionnaire” (Visser et al., 2000). Under the unfortunate occurrence of COVID-19, the data will be collected via zoom and the internet. Due to the circumstances of COVID-19, internet-based surveys are popular for data collection because they are straightforward, easy to use, and productive when trying to get fast responses from a hefty group of people (Greenacre, 2016). Polit & Beck (2014, as cited in Connelly, 2016) concluded that surveys are adaptable and can be used under a wide range of conditions and populations. As times are uncertain, and face to face interactions are limited, this will be the most effective way to gather data.
Mental Health

Student-athletes are a unique breed. The student-athlete life consists of perpetually competing at an elite level on and off the field. The expectations are always set high. “The physical impacts of elite sport participation have been well documented; however, there is comparatively less research on the mental health and psychological wellbeing of elite athletes” (Rice et al., 2016). Student-athletes experience an extraneous number of stressors in their daily lives. Those consist of the public/social media, the team itself, and potential risk of injury. According to a study by Lazarus (2000, as cited in Rice et al., 2016), “the ways by which athletes appraise and cope with these stressors can be a powerful determinant of the impact the stressors have on both their mental health and their sporting success."

Athletes do not often seek out help during these troubling times.

The US Department of Health and Services (USDHS) reported in 2012 that 1 in 5 adults (20%) experience a mental health issue each year. USDHS also reported that rate increased to 30% in the age group 18-25 years, yet less than one-third of those in this age group received treatment. This age range encompasses many athletes in high school, collegiate and professional athletics (Bauman, 2016). Sports put a great deal of mental, physical, and emotional pressure on athletes. Not only are they trying to succeed for themselves, but athletes hold the weight for their family, teammates, and community as well. For some, sports open new doors and opportunities. According to a study by Gulliver et al. (2012 as cited in Rice et al., 2016), “the peak competitive years for elite athletes (Allen & Hopkins, 2015) tend to overlap with the peak age for the risk of onset of mental disorders.” Universities need to be more aware and involved with the mental health of their student-athletes as this is an underlying issue
that needs to be recognized for its high importance. It is best for coaches and supporting staff to be involved with their athletes and check in with them along the way. “We need to ensure a new norm—an environment where athletes are free to ask for help, without negative consequences and receive that assistance from expert mental health professionals. When that happens, a new and healthier culture will replace the existing one where athletes and mental health issues are ignored, hidden or discarded” (Bauman, 2016).

COVID-19

As months have gone by COVID-19 is still the most relevant issue discussed daily around the world. “Countries across Europe, and especially France, are seeing a resurgence in coronavirus disease 2019 (COVID-19) cases after successfully slowing down outbreaks earlier in 2020” (Zayet, 2020). Also, across the United States there has been an increase of cases over the last few months, thus, leaving people in self-isolation and quarantine. Researchers are doing all they can to come up with a vaccine to slow and put an end to this global pandemic. However, until then, the government is still mandating people to follow and adhere to all COVID-19 restrictions. However, this may vary across different states all over the country.

As of March 2020, the World Health Organization (WHO) announced COVID-19 as an epidemic from Wuhan China to a global pandemic (dos Santos, 2020). The reasoning behind this was because of the high speed and scope of how fast the virus has spread. This outbreak is genetically linked to the SARS surge of 2003, resulting as a severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) named by the International Committee for Taxonomy of Viruses (dos Santos, 2020). It should be known that researchers don’t know the true source of the coronavirus. The thought has been it can be traced back to the Huanan South China Seafood
Market. This is where animals have been sold and many of the early subjects that obtained the virus had some sort of association with. There has been talk of another coronavirus named Bat-CoV-RaTG13 which comes from a group of bat species. According to research done by Andersen et al., (2020, as cited by Zhou et al., 2020), the virus has been examined to originate 2,000 km from Wuhan. There has been some talk whether COVID-19 is spreading from human to human transmission or from animals. As of January 2020, the World Health Organization reported evidence of human to human transmission. Since the coronavirus has emerged, it has taken the lives of thousands.

According to a recent study done in France, during the second wave of COVID-19, researchers provided data about the history of evolution and onset of symptoms (Zayet, 2020). The timeline of this study began at the end of February and went through mid-March. The data was collected during the mean incubation period. The first symptom of COVID-19 is categorized as a pain syndrome which is defined by headache, myalgia or arthralgia. This typically strikes in the first 1-2 days of the virus. The second condition to hit is the fever, followed by cough and diarrhea. The fifth symptom resulted in anosmia. Depending on the symptom, they lasted between one to nineteen days. A concerning factor of COVID-19 depending on the severity of the case may leave patients hospitalized. Overall, “among patients with COVID-19, general symptoms appeared first, followed by respiratory, rhinolaryngologic and gastrointestinal symptoms” (Zayet, 2020).

Anxiety and Depression

Sports are stressful. “During stressful situations, the body is threatened by external or internal forces that may lead to an alteration of its homeostasis. The adaptive changes, which
occur in the body during stress, can either be behavioral or physical” (Weber et al., 2018). Stress can also have an effect physiologically which can activate symptoms of anxiety and depression. These may affect athletes at different times, whether it is right before a race or during a training session. According to a study by Doherty et al., (2016, as cited by Lebrun et al., 2018) “in this regard, it may be that the uniqueness of the performance environment in which elite athletes operate influences their experience, the symptoms expressed, and their reactions to depression.” Anxiety and depression are two severe mental health issues that are not to be taken lightly, especially with athletes.

Depression and anxiety go hand in hand. In most cases, patients with depression often share similar traits of anxiety disorders, and those generally with anxiety disorders have depression (Tiller, 2013). Experiencing both of these disorders may cause one to have trouble doing day-to-day activities. Both disorders can cause someone to lose interest in a task and affect how you feel, think, and behave. A list of common symptoms of depression from the researchers at Mayo Clinic (2018) are “feelings of sadness, tearfulness, emptiness or hopelessness, trouble thinking, concentrating, making decisions and remembering things, sleep disturbances, including insomnia or sleeping too much, and many more.” Some risk factors can range from certain personality traits to abuse of alcohol or drugs. Furthermore, a list of symptoms of anxiety from the professionals at Mayo Clinic (2017) may include “inability to relax, feeling restless, and feeling keyed up or on edge, difficulty handling uncertainty, overthinking plans, and solutions to all possible worst-case outcomes.” Risk factors of anxiety may consist of personality, genetics and experiences in life. For both of these mental health illnesses, there is not any real known prediction or cure. If a student-athlete were to have either of these conditions, it is a major concern. The support staff of these student-athletes need to be on high alert and actively
involved. Both of these disorders can cause someone to go on the wrong path quickly. It is important that student-athletes feel safe and comfortable with the people around them and more importantly with themselves.

Summary

Chapter Two provided the reviewed literature that is applicable to this study. The first segment contributed a search of terms table to provide additional related topics to the study. The second segment provided a historical overview of COVID-19 and mental health. The third segment gave an origin of the problem. The fourth segment analyzed the methodology that will be used for this study. The fifth segment discussed how mental health plays a major role in the lives of student-athletes. The sixth segment contributed the impact COVID-19 has had on the world. Lastly, to conclude the literature review, the seventh segment examines why anxiety and depression are two of the most prominent mental health disorders that student-athletes struggle with. The next chapter presents a thorough outline of the methodology that was utilized for this study.
Chapter III – Research Methodology

The study aims to understand how the COVID-19 pandemic had impacted the mental health of collegiate student-athletes. The survey was broken down into three parts for the student-athletes to answer. The questions discussed topics about academics, anxiety, and depression throughout the COVID-19 pandemic. Questions dove into those topics and compared fall of 2019 (pre-COVID-19) and fall of 2020 (during-COVID-19). The purpose of this study was to learn how COVID-19 had influenced the mental well-being of collegiate student-athletes. Due to the COVID-19 pandemic a plethora of circumstances have changed for student-athletes, whether it was being sent home for the semester instead of staying in town or going from in person classes to completely remote. The change has a whole took a toll on the body physically, mentally, and emotionally. This chapter included the research design, sample and setting, research questions, instruments, data collection procedure, data analysis, and summary of the research methodology.

Research Design

This study is a cross-sectional research design. “Cross-sectional study design is a type of observational study design. In a cross-sectional study, the investigator measures the outcome and the exposures in the study participants at the same time” (Setia, 2016.) This cross-sectional research design will be categorized by using a survey. The survey distributed collected qualitative and quantitative data. The athletic department granted access for distribution of the survey to their student-athletes. The survey itself was disbursed in an email chain to all student-athletes at once. All student-athletes receiving an email will click on the same link through Qualtrics. There are nearly 340 student-athletes at the Division II university. There were three
parts to the survey. The first part was in regard to stress levels and credit load throughout the COVID-19 pandemic. It took a look at pre-COVID-19 (fall of 2019) and during-COVID-19 (fall of 2020). The second and third part asked questions about anxiety and depression during the times of COVID-19. All parts were distributed at once. There were thirteen questions in all. The questions were formatted as a yes or no, a 5-point Likert scale, or multiple choice. There were places in the survey to leave comments or write out responses at the respondent’s discretion (See Appendix A).

The purpose of this survey was to identify key factors the COVID-19 pandemic had on student-athletes’ academic, mental or emotional state. The survey provided information as a whole on the impact the pandemic had on stress levels and credit load comparing pre-COVID-19 and during-COVID-19. This survey focused on determining the impact of COVID 19 on student-athlete mental health so we can improve our supports for student-athletes in the future.

Sample and Setting

The setting for this study was a middle-sized university in the Midwest. The town is home to roughly 30,000 people with the university enrollment around 9,000 students, who were in the research design. Of the roughly 9,000 students, about 340 are student-athletes. The university was a four-year, public university. The university contained undergraduate, graduate and doctoral programs.

The Division II university was home to fourteen sports. Athletes in this study competed in men’s or women’s basketball, baseball, men’s or women’s cross country, football, men’s or women’s golf, gymnastics, women’s soccer, softball, tennis, track & field, and volleyball. The participants in this research design were mainly from the Midwest. However, there were some
participants that were scattered from all over United States and even some from other countries around the world. Among the student-athletes, they ranged from freshman through graduate students, leaving their age range from 18-24 years old. The majority of the student-athletes were Caucasian. There were a few student-athletes that racially identified as Hispanic or African American as well as a sprinkling of two or more races. The racial demographics are broken down as the whole student-athlete body (male and female from the 2019-2020 academic school year). All student-athletes were eligible to participate in the study. The response rates revolved around the roughly 340 student-athletes at the university.

**Research Questions**

The research questions were:

RQ 1: How COVID-19 has influenced the mental well-being among collegiate student-athletes?

RQ 2: Does this relate to a positive or negative impact on student-athletes GPA, stress level, and credit load?

The research was collected from a mix of qualitative and quantitative data designed through a survey to the student-athlete population. All questions asked in the survey were based upon answering the research questions.

**Instruments**

Participation in this study was voluntary and participation may stop at any time. Participants may decide not to participate or to discontinue participation at any time without penalty. Benefits of this study included helping administration with the impact the COVID-19 pandemic had on student-athlete mental health so they can improve their supports for student-
athletes in the future. A decision not to participate or withdraw did not affect your current or future relationship with the Division II university. If any participants have any questions about the survey or resources provided, contact information was left for them to contact the principal investigator or the faculty sponsor of this research design. Also, information was provided on the consent form and survey for them to contact the university Human Protections Administrator. It was to be noted that completion of the questionnaire implied that the participant gave consent to participate in the study.

**Data Collection Procedure**

Before any data collecting could be conducted, the Institutional Review Board (IRB) needed to approve. The approval from the IRB indicated that all requirements had been met for the research study to take place. “The purpose of IRB review is to assure, both in advance and by periodic review, that appropriate steps are taken to protect the rights and welfare of humans participating as subjects in the research” (Center for Drug Evaluation and Research., n.d.). The process of approval was that the researcher must complete the IRB package and model which involves questions regarding the research process. The IRB provided feedback and recommendations for the study. This was a vital and primary step before reaching out to participants for the study.

Before starting the survey, student-athletes were informed of the potential risks at hand. Potential risks were the acknowledgments of their potential mental health issues. The survey will ask questions in regard to anxiety, depression, and emotional state. (See Appendix B & C). The information collected was disclosed to only the researcher. No identifiable information was
collected or shared in the results. Resources were provided in the consent form and at the end of the survey for student-athletes to reach out for help or more information.

**Data Analysis**

Once the IRB granted approval of the research design, the data was sent through a survey application called Qualtrics. Student-athletes have answered a set of questions in regard to their academics and emotional state throughout the COVID-19 pandemic. The goal is to compare data from pre-COVID19 (fall of 2019) and during-COVID-19 (fall of 2020). Throughout the research process no data that was collected was identifiable by individual. The subjects remained anonymous throughout the research process. The survey was administered through an email chain sent from the athletic department at the university that included all student-athletes. All student-athletes clicked on the same link in the email through the application Qualtrics. The Qualtrics survey contained three parts. The three parts consisted of questions related to stress level and credit load, anxiety, and depression throughout the COVID-19 pandemic. All parts were distributed at one time. The data was stored on a secure server on a password-protected account managed by Qualtrics. No individually identifiable data was downloaded or collected. The aggregate data downloaded was maintained on a university password protected device with access limited to the principal investigator and sponsor. The data will be deleted after the completion of the research study. If the student-athletes wanted to seek help or more information a few references were listed on the consent form and survey. Those resources were identified as the SAMHSA’s National Mental Health Helpline, National Suicide Prevent Lifeline, and the university’s student health services, and counseling services. Contact information was provided including their emails and telephone numbers for student-athletes to reach out at their discretion.
Summary

This chapter explained the research methodology, which was built upon the research design, sample and setting, research questions, instruments, data collection procedure, data analysis, and summary. This study was a cross-sectional research design. The survey distributed and collected qualitative and quantitative data. Chapter Four will discuss the results while the last chapter will include a conclusions and recommendations based upon the data.
Chapter IV: Results

Introduction

To gain a better understanding on how the COVID-19 pandemic affected the mental health of student-athletes, the researcher conducted an online survey and distributed it to the student-athlete population at a Division II university in the Midwest. The researcher used both quantitative and qualitative methods to analyze the data.

The results of this study are displayed throughout this chapter. This chapter was formatted to provide a clear understanding of the sample. This consisted of a description of the sample, demographic data, data analysis, and summary of the chapter. The findings of the study are outlined in Chapter V.

Description of the Sample

Participants of the study included student-athletes who were associated with a Division II university. There were roughly 340 student-athletes who had the opportunity to participate in this research design. Of the 340 possible participants, 116 filled out the survey after completing an informed consent form. This netted a return rate of 34%.

The researcher gathered data from the 116 participants that responded to an email that was sent out to the student-athletes from the university’s athletic department. The email contained the purpose of the study, the informed consent form, and the survey link from Qualtrics to be able to participate in the study. Additional information about the survey was also included in the email and consent form regarding length of the survey, format of the survey, and further resources participations could access. It was clearly stated in the email, consent form, and
survey that all participation for the study was voluntary and the participants could stop at their discretion.

**Demographic Questions**

There were three demographic questions asked. This allowed to look at the stratified themes regarding mental health and the COVID-19 pandemic with student-athletes. The focal points of the survey were looking at student-athletes from educational, anxiety, and depression perspectives. The educational portion focused on stress level and GPA from before COVID-19 and during COVID-19. The anxiety and depression portions focused on mental health questionnaires that scored each participant based on their answers to each question. Therefore, each participant would be classified as having a mild, moderate, moderately severe, or severe case of anxiety or depression based upon their responses. The participants could only move forward with the survey after confirming they were over eighteen years of age and had read the consent form.

**Demographics**

The data consisted of 116 participants that were grouped by their academic year instead of athletic year at the university. There were twenty-seven freshman, twenty-seven sophomores, thirty-five juniors, twenty-three seniors, and four graduate students that volunteered to be in the study. The participants came from fourteen different sports that were offered at the Division II institution. Of these sports, there was one men’s basketball, six baseball, zero men’s cross country, two men’s golf, eight women’s basketball, six women’s cross country, six women’s
golf, eleven gymnastics, fourteen women’s soccer, sixteen softball, two tennis, six track & field, seven volleyball, and thirty-one football participants (See Table 1).

Table 1.

What sport do you play?

<table>
<thead>
<tr>
<th>Item #</th>
<th>Answer</th>
<th>%</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Men's Basketball</td>
<td>0.86%</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Baseball</td>
<td>5.17%</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Men's Cross Country</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Football</td>
<td>26.72%</td>
<td>31</td>
</tr>
<tr>
<td>5</td>
<td>Men's Golf</td>
<td>1.72%</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Women's Basketball</td>
<td>6.90%</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>Women's Cross Country</td>
<td>5.17%</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>Women's Golf</td>
<td>5.17%</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Gymnastics</td>
<td>9.48%</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>Soccer</td>
<td>12.07%</td>
<td>14</td>
</tr>
<tr>
<td>11</td>
<td>Softball</td>
<td>13.79%</td>
<td>16</td>
</tr>
<tr>
<td>12</td>
<td>Tennis</td>
<td>1.72%</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>Track &amp; Field</td>
<td>5.17%</td>
<td>6</td>
</tr>
<tr>
<td>14</td>
<td>Volleyball</td>
<td>6.03%</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td>116</td>
</tr>
</tbody>
</table>

Table 1 outlined the sample of student-athletes from each sport that participate in the study.

There were 116 total participants.

The respondents were asked to compare the GPA’s of the fall of 2019 and the fall of 2020. The data was similar. In 2019, seventy-six students (65.52%) had between a 3.50-4.0 GPA and twenty-seven students (23.28%) had between a 3.0-3.5 GPA while in 2020, seventy-five students
(64.66%) had between a 3.50-4.0 GPA and twenty-nine students (25.0%) had between a 3.0-3.5 GPA (See Table 2).

Table 2.

Table 2 compared GPAs of student-athletes in fall of 2019 (pre-COVID-19) compared with 2020 (during COVID-19).

The only difference was that in 2020, two students fell below a 2.0 GPA. The next group of questions identified stress levels regarding the student-athlete’s daily lives with the global pandemic. In fall of 2020, eighty-seven student-athletes (75%) felt that they experienced more stress due to COVID-19 than the fall of 2019 (See Table 3).

Table 3.

Do you feel that you experienced more stress in the fall of 2020 due to COVID-19 compared to the fall of 2019?
Table 3 displayed the comparison student-athletes felt between stress levels in fall of 2020 and fall of 2019 due to COVID-19.

In fall of 2019, student-athletes felt that they had low stress. With that being said, on a scale 1-5, ten students (8.62%) put 1 (low or no stress), fifty-three students (45.6%) put 2, and thirty-eight students (32.76%) put 3. However, on the other end, in 2020, forty-nine students (25.22%) put a 3, fifty-six students (48.76%) put 4, and twenty-two students (19.13%) put a 5. Comparing the two-time spans, the stress levels were on opposite sides of the spectrum for student-athletes (See Table 4).

*Table 4.*

If you had to rate your stress level in fall of 2019 (pre-COVID-19), and fall of 2020 (during COVID-19) what would it be?
Table 4 presented the stress level student-athletes felt in fall of 2019 (pre-COVID-19) compared with fall of 2020 (during COVID-19).

The average answer for 2019 was a 2.54 while in 2020 was 3.77. Due to the circumstances of COVID-19, it did not have a major impact on credit loads for student-athletes as eighty-five (73.28%) took the same amount of credits as the previous semester. Ninety-nine students (85.34%) preferred in person learning over online learning (See Table 5).

*Table 5.*

Which learning setting do you prefer?
Table 5 compared the style of learning student-athletes prefer.

The student-athletes expressed this in the free response portion of the study. The student-athletes communicated that online learning has been harder in general, especially with less resources available making it that much more difficult for classes. It was noted that students were not happy with how their labs and clinicals were going due to the lack of in person experiences because of the COVID-19 protocols. They felt that professors were handing out more assignments because virtual class was a learning experience for everyone. They felt an increase of stress due to not knowing what is going to happen next with their school situation. This added to student-athletes already experiencing discomfort about their sports season being cancelled and not having that stress reliever in their lives which took a toll on their mental health. The theme is that in fall of 2020 (during-COVID), based on the results in this study, the student-athletes at this university experienced more stress but were still able to maintain their schoolwork with the wide range of how sections were offered. In fall of 2019, there were a total of 2,048 sections offered and fall of 2020 had 1,886. There were multiple ways the sections were offered (See Table 6).
Table 6 represented the range of how sections were offered in fall of 2019 compared to fall of 2020.

It is to be noted that the count of total sections offered includes sections that had no enrollment.

The last section of the survey examined the anxiety and depression of student-athletes throughout the COVID-19 pandemic was measured by commonly used instruments available through the Center for Disease Control (CDC). The first section participants answered was in regard to anxiety (GAD-7). The second section was about depression (PHQ-9). For these questions, the data was looked at as a whole (See Tables 7 & 8).

Table 7.
Over the last two weeks, how often have you been bothered by the following problems?
Table 7 displayed the results of the student-athlete’s responses regarding anxiety (GAD-7). The findings of these questions helped categorize each student-athlete on their anxiety severity. The GAD-7 anxiety scores represent: 0-5 mild, 6-10 moderate, 11-15 moderately severe, 16-21 severe. The results are as followed: mild (60), moderate (32), moderately severe (15), and severe (9) cases.

Table 8.

Over the last two weeks, how often have you been bothered by the following problems?
Table 8 displayed the results of the student-athlete’s responses regarding depression (PHQ-9). The findings of these questions helped categorize each student-athlete on their depression severity. The PHQ-9 depression scores represent: 0-4 none, 5-9 mild, 10-14 moderate, 15-19 moderately severe, and 20-27 severe. The results are as followed: none (67), mild (28), moderate (14), moderately severe (4), and severe (3) cases.

The tables indicated each response for every question by a participant. The researcher broke down each answer for each participant and classify them based upon their responses. If the participant answered, “not at all”, they would be given a zero for that question. Additionally, if they answered “several days” they would receive one point for that response. This went on for each response. For example, the response of “more than half the days” they would get two points
and for “nearly every day” they would receive three points. Therefore, after each questionnaire was filled out, the researcher was able to add up all the numbers based upon their responses. The researcher was able to calculate and classify the responses by each participant by the GAD-7 Anxiety Severity and PHQ-9 Depression Severity scale. The classifications for anxiety consisted of 0-5 mild, 6-10 moderate, 11-15 moderately severe, 16-21 severe while for depression was 0-4 none, 5-9 mild, 10-14 moderate, 15-19 moderately severe, and 20-27 severe. For anxiety, the results are as followed: mild (60), moderate (32), moderately severe anxiety (15), and severe (9) cases. The depression results consisted of none (67), mild (28), moderate (14), moderately severe (4), and severe (3) cases. Furthermore, the researcher broke down the cases by student-athletes academically for anxiety (See Table 9) and depression (See Table 10).

Table 9.

Table 9 broke down the category of anxiety based upon the student-athletes year academically. Freshmen were mild (15), moderate (10), moderately severe (1), and severe (1). Sophomores were mild (14), moderate (4), moderately severe (5), and severe (4). Juniors were mild (19), moderate (8), moderately severe (6), and severe (2). Seniors were mild (10), moderate (9),
moderately severe (2), and severe (2). Graduate Students were mild (2), moderate (1), moderately severe (1), and severe (0).

*Table 10.*

Table 10 displayed the category of depression based upon the student-athletes year academically.

Freshmen were none (14), mild (8), moderate (4), moderately severe (1), and severe (0).

Sophomores were none (17), mild (2), moderate (5), moderately severe (1), and severe (2).

Juniors were none (21), mild (6), moderate (0), moderately severe (0), and severe (0). Seniors were none (12), mild (9), moderate (2), moderately severe (0), and severe (0). Graduate Students were none (3), mild (1), moderate (0), moderately severe (0), and severe (0).

The last table compared depression cases by male and female sports (See Table 11).

*Table 11.*
Table 11 classified each case of depression by specific sports of student-athletes comparing male and female sports.

In conclusion, mental health is still a major concern but at this Division II university, based upon the participants in this study, their anxiety and depression levels as a whole were on the lower end of the severity scales even with the COVID-19 pandemic playing a factor.

Summary

The information shared in this chapter represented the results of the study. This was reflected in Chapter Three in regard to the data collection methodology. Multiple components of this study were considered to get a better understanding of the impact COVID-19 has had on the mental health of student-athletes at a Division II university in the Midwest. The data is represented as a result of the 116 student-athletes that participated in the survey. Chapter V explored the discussions and conclusions of the data as well as recommendations for future research.
Chapter V: Discussions and Conclusions

The goal of this cross-sectional research design was to establish a better understanding of how the COVID-19 pandemic impacted the mental health of student-athletes. The research took a deeper look at academics, anxiety, and depression. The population consisted of 116 student-athletes from a Division II university in the Midwest. Due to the circumstances of COVID-19, the researcher distributed an online survey to the student-athletes with assistance from the university’s athletic department.

The online survey focused on three areas: academics, anxiety, and depression. Within each of these areas in the survey, questions were each designed to find themes based on the outcomes of the data which then correlated to a philosophy based on these final results. Each area was designed to find themes in the data which correlated to a philosophy from the final results. Throughout the research process, the data was continuously inspected and compared to previous findings that were discussed in Chapter Two. Therefore, based upon the data at hand the researcher discussed the significance of the data and established conclusions which led to guidance for future research.

Discussions and Conclusions

The primary research questions were:

RQ 1: How COVID-19 has influenced the mental well-being among collegiate student athletes?

RQ 2: Does this relate to a positive or negative impact on student-athletes GPA, stress level, and credit load?
The data collected was based on the 116 student-athletes that were willing to participate in the research design. The results of the study were analyzed to find themes in regard to the primary research questions.

More and more research has been developed about the COVID-19 virus. Millions of people have been impacted by the pandemic. However, as the COVID-19 pandemic is still a growing and sudden event in the world, there is still research to be done. This research design established a purpose to dive into the effect the COVID-19 pandemic has had on the mental health of collegiate student-athletes. There are a multitude of findings regarding mental health and student-athletes, so the research conducted includes additional data to that body of literature. This research design directly focuses on the mental health side of student-athletes looking at the COVID-19 impact from an academic, anxiety, and depression standpoint.

**Academics**

According to the institution, in fall of 2019 there were a total of 2,048 sections of classes offered and fall of 2020 had 1,886. The way these sections were offered consisted of online, face to face, hybrid, and more due to the COVID-19 pandemic. This research design took a closer look to see if this may have impacted the GPAs of student-athletes. According to the data, in 2019, seventy-six students (65.52%) had between a 3.50-4.0 GPA and twenty-seven students (23.28%) had between a 3.0-3.5 GPA. While in 2020, seventy-five students (64.66%) had between a 3.50-4.0 GPA and twenty-nine students (25.0%) had between a 3.0-3.5 GPA (See Table 12).

*Table 12.*
This showed that the GPA’s of the student-athletes were stable inferring that even with the whirlwind of how classes were offered, it did not have a major impact. It should be highlighted that ninety-nine students (85.34%) preferred in person learning over online learning. The student-athletes expressed why in the free response portion of the study. The student-athletes expressed that online learning has been a difficult learning curve to handle because it is something that no one was used to, even the faculty. Furthermore, the student-athletes felt that there was a lack of resources available making it that much more difficult for professors to teach and students to learn. Student-athletes that had labs or clinicals complained that they were not doing much for them as they lacked complete or minimal in person experience due to the COVID-19 guidelines. In the broader scheme of things, student-athletes felt that professors were handing out more assignments because virtual courses seemed to be easier. The student-athletes made it clear that they were accustomed to higher levels of stress due to not knowing what was going to happen next with their school situation. This increased as the athletic seasons of student-athletes were postponed or canceled.
Next, the study identified that there was a correlation between what the student-athletes experienced in regard to stress levels, academics, and the COVID-19 pandemic. In fall of 2020, eighty-seven student-athletes (75%) experienced more stress due to COVID-19 than fall of 2019. This was due to the chaotic times of the institution struggling to figure out the best ways to do online learning. This was a burden for everyone involved. Therefore, a new learning curve begun with no end in sight. In addition, the data from both fall semesters showed that they impacted student-athletes not differently but caused more stressed. This can be proven as the average answer for 2019 was a 2.54 while in 2020, it was 3.77 on a scale one to five. Based upon the data, the grades of the student-athletes were stable and if any impact occurred, it was minimal despite the COVID-19 pandemic. Although the pandemic did not impact student grades, it did directly impact the stress of student-athletes as their stress levels were higher during the pandemic in fall of 2020.

**Anxiety and Depression**

According to the responds, the mental state of the student-athletes through the lens of anxiety and depression throughout the COVID-19 pandemic had a minimal impact. This was evaluated by commonly used instruments from the Center for Disease Control (CDC). Participants completed a GAD-7 anxiety and PHQ-9 depression questionnaires as part of the survey. Based upon the data, the researcher was able to compute and calibrate the responses by each student-athlete through the GAD-7 Anxiety Severity and PHQ-9 Depression Severity scales (See Table 13).

*Table 13.*
The results were steady across the board when looking at anxiety levels of the student-athletes year in terms of academics. Meaning no matter what academic year, the student-athlete was, majority of responses consisted of mild or moderate. The data was similar for depression as no matter the academic year of the student-athlete the data did not show higher or lower levels.

Overall, the results concluded that no specific sports team seemed to be on alert for high levels of depression. In conclusion, mental health was still a highly regarded topic in sports today and something that needs to be continuously talked about, but at this Division II university, based upon the participants in this study, their anxiety and depression levels as a whole were on the lower end of the severity scales even with the COVID-19 pandemic playing a factor. Even though the results showed low levels of severity for anxiety and depression of the student-athletes, the athletic department, training staff, and coaches at the institution should regularly check in and keep an eye on their student-athletes. The life of a student-athlete is a roller coaster with handling school, sports, and daily activities. Therefore, routinely checking in with the student-athletes is a great way to be in engaged in their lives as well as making sure they are in a good mental state.
Recommendations for Future Research

Due to the Central for Disease Control and Prevention (CDC) guidelines for COVID-19, the research design was limited to an online survey to compile the data. The use of in-person interviews could be of value to future researchers. This could be in regard to the student-athletes or coaches at the institution to see different perspectives. Additional ideas could be to interview and survey coaches at multiple Division II institutions and see how the data compares. Moreover, future surveys and interviews could consist of other geographic areas and compare the different levels of the National Collegiate Athletic Association (NCAA). For example, Division I, II, and III institutions.

Recommendations for practitioners at this institution may include clinical and sports psychologists and mental health counselors. These people should be frequently involved in the lives of their student-athletes. Whether they set up frequent lectures, in person or online resources, or meetings with the student-athletes. It does not have to be with everyone but at least with the leaders of each sports team. Therefore, the leaders can pass down messages or themselves make an impact on their team. Meetings with the student-athletes would be valuable as they are developing relationships. Furthermore, feedback would be a beneficial attribute as they can see progress over time.

Lastly, the research design focused on mental health and the data that was collected looked in depth at anxiety and depression. Future studies could expand and look at other mental health issues that student-athletes may experience. Future studies could compare other mental health issues such as performance anxiety from fall and spring semesters. This could be intriguing as the data could differ because student-athletes will be in-season for one semester and out-of-
season in the other. The life of a student-athletes differs from in-season and out-of-season. A student-athlete may be experiencing less practices, fewer credit load, and balancing a work schedule. All of these play a major factor in the daily lives of student-athletes. Therefore, it would be intriguing to see future research on the impact in-season and out-of-season lifestyles affect mental health.

Summary

This cross-sectional research design’s purpose was to explore the impact the COVID-19 pandemic had on mental health of student-athletes. Participants of this study consisted of the student-athlete body at a Division II university in the Midwest. Additionally, the research used a quantitative and qualitative analysis to conduct the data. The data accumulated from the online survey did conclude that the COVID-19 pandemic did have an impact on the mental health of student athletes. This was supported the most when comparing fall of 2019 (pre-COVID-19) and fall of 2020 (during-COVID-19). Student-athletes experienced a great amount of stress in fall of 2020 when the pandemic was most impactful on their daily life, school, and sports. In fall of 2019, student-athletes encountered minimal stress levels. As COVID-19 impacted how classes were offered, a majority of student-athletes preferred in-person learning. It was noted that even with the pandemic going on, the student-athlete’s grades were stable compared with fall semester of 2019. In regard to anxiety and depression, the bulk of student-athletes experienced none or mild cases. In conclusion, student-athletes were directly impacted from the COVID-19 pandemic from an academic and stress standpoint rather than anxiety and depression.
References


https://doi.org/10.6061/clinics/2019/e1403


Mental Health by the Numbers. (n.d.). https://www.nami.org/mhstats


Patient Health Questionnaire (PHQ-9). (n.d.).

https://www.med.umich.edu/1info/FHP/practiceguides/depress/phq-9.pdf


Appendix A

Student-Athlete Mental Health Survey

Start of Block: Balliu's Survey

Hello, I am conducting a survey to determine what impact COVID-19 pandemic has on student-athletes mental health as part of my master's degree in Sports Management.

The completion of the questionnaire implies that the participant has given consent to participate in the study.

Your participation will involve completing a brief survey; it should take less than 5 minutes to complete. This research study is designed to see the impact the COVID-19 global pandemic has played on mental health. The survey contains questions that will focus on GPA, credit load, levels of stress, anxiety and depression. Questions will dive into those topics and compare fall of 2019 (pre-COVID-19) and fall of 2020 (during-COVID-19). Questions will be asked in multiple choice format or provide a comment section. We hope to learn how COVID-19 has influenced the mental well-being of collegiate student-athletes.

Your participation in this study is strictly voluntary. If you decide not to participate or wish to stop the survey before it is complete, you can do so without consequences. The results of the survey may be published or otherwise disseminated but your identity will remain anonymous and no identifying information will be made known to any outside part. The aggregate data downloaded will be maintained on a WSU password protected device with access limited to the
principal investigator and sponsor. The data will be deleted after the completion of the research process.

Potential risks are the acknowledgments of mental health. The survey will ask questions in regard to anxiety, depression, and emotional state. The information collected will be disclosed to only the researcher. No identifiable information will be collected or shared in the results.

Resources:

SAMHSA's National Mental Health Helpline
- https://www.samhsa.gov/find-help/national-helpline

WSU Student Health Services
- https://winona.edu/health services

National Suicide Prevention Lifeline
- suicidepreventionlifeline.org/
- 1-800 273 8255.

Additional Information:
If you have any questions or want to schedule an appointment for counseling, please email counselingservices@winona.edu or call 507.457.5330.

Contact Information:
If you have any questions regarding the study, please feel free to contact me at jballiu15@winona.edu. You can also contact my faculty advisor at steven.baule@winona.edu

If you have questions or concerns about your participation in the study, contact the Human Protections Administrator Brett Ayers at 507-457-5519 or bayers@winona.edu. This project has been reviewed by the Winona State University Institutional Review Board for the protection of human subjects.

Q1 Are you over 18?

○ Yes (1)

○ No (2)

Skip To: End of Survey If Are you over 18? = No

Q2 What year are you academically?

○ Freshman (1)

○ Sophomore (2)

○ Junior (3)

○ Senior (4)

○ Graduate Student (5)
Q3 What sport do you play?

- Men's Basketball (1)
- Baseball (2)
- Men's Cross Country (3)
- Football (4)
- Men's Golf (5)
- Women's Basketball (6)
- Women's Cross Country (7)
- Women's Golf (8)
- Gymnastics (9)
- Soccer (10)
- Softball (11)
- Tennis (12)
- Track & Field (13)
- Volleyball (14)
Q4 What was your GPA in fall of 2019?

- Below 2.0 (1)
- 2.0-2.5 (2)
- 2.5-3.0 (3)
- 3.0-3.5 (4)
- 3.5-4.0 (5)
- Prefer not to say (6)

Q5 What was your GPA in fall of 2020?

- Below 2.0 (1)
- 2.0-2.5 (2)
- 2.5-3.0 (3)
- 3.0-3.5 (4)
- 3.5-4.0 (5)
- Prefer not to say (6)

Q6 Do you feel that you experienced more stress in fall of 2020 due to COVID-19 compared to fall of 2019?

- More stress (1)
- The same level of stress (2)
- Less stress (3)
Q7 If you had to rate your stress level in fall of 2019 (pre-COVID-19), what would it be?

- 1 (Low or no stress) (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (Very stressed) (5)

Q8 If you had to rate your stress level in fall of 2020 (during-COVID-19), what would it be?

- 1 (Low or no stress) (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (Very stressed) (5)

Q9 Did you take more or fewer credits "than usual" in fall of 2020 semester due to COVID-19 circumstances?

- More credits (1)
- The same number of credits (2)
- Less credits (3)
Q10 Which learning setting do you prefer?

- In-person (1)
- Online (2)

Q11 Do you have any other information that I should consider regarding the COVID-19 pandemic, preferred learning environment, and/or student-athlete mental health?

Q12 Over the last two weeks, how often have you been bothered by the following problems?

<table>
<thead>
<tr>
<th>Feeling nervous, anxious, or on edge (1)</th>
<th>Not at all (1)</th>
<th>Several days (2)</th>
<th>More than half the days (3)</th>
<th>Nearly every day (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not being able to stop or control worrying (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Worrying too much about different things (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Trouble relaxing (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Being so restless that it is hard to sit still (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Becoming easily annoyed or irritable (6)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Feeling afraid, as if something awful might happen (7)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q13 Over the last two weeks, how often have you been bothered by the following problems?

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not at all (1)</th>
<th>Several days (2)</th>
<th>More than half the days (3)</th>
<th>Nearly every day (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little interest or pleasure in doing things</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Feeling down, depressed, or hopeless</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Trouble falling/staying asleep, sleeping too much</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Feeling tired or having little energy</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Poor appetite or overeating</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Feeling bad about yourself or that you are a failure or have let yourself or family down</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Moving or speaking so slowly that other people could have noticed? Or the opposite; being so fidgety or restless that you have been moving around a lot more than usual</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Thoughts that you would be better off dead or hurting yourself in some way</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q14 Thanks again for taking this survey. As a reminder, the following resources are available to those needing to address stress or mental health issues:

SAMHSA’s National Mental Health Helpline
  - https://www.samhsa.gov/find-help/national-helpline

WSU Student Health Services
  - https://winona.edu/health services

National Suicide Prevention Lifeline
  - suicidepreventionlifeline.org/
  - 1-800-273-8255

Additional Information:

If you have any questions or want to schedule an appointment for counseling, please email counselingservices@winona.edu or call 507-457-5330.

Contact Information:

If you have any questions regarding the study, please feel free to contact me at jballiu15@winona.edu. You can also contact my faculty advisor at steven.baule@winona.edu

If you have questions or concerns about your participation in the study, contact the Human Protections Administrator Brett Ayers at 507-457-5519 or bayers@winona.edu. This project has
been reviewed by the Winona State University Institutional Review Board for the protection of human subjects.

End of Block: Balliu's Survey
Appendix B

GAD-7 Anxiety

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feeling nervous, anxious, or on edge</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Not being able to stop or control worrying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Worrying too much about different things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Trouble relaxing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Being so restless that it is hard to sit still</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Becoming easily annoyed or irritable</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Feeling afraid, as if something awful might happen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Column totals: _____ + _____ + _____ + _____ = Total score _____

If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all Somewhat difficult Very difficult Extremely difficult

[□] [□] [□] [□]

Source: Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD-PHQ). The PHQ was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues. For research information, contact Dr. Spitzer at ris8@columbia.edu. PRIME-MD® is a trademark of Pfizer Inc. Copyright© 1999 Pfizer Inc. All rights reserved. Reproduced with permission.

Scoring GAD-7 Anxiety Severity

This is calculated by assigning scores of 0, 1, 2, and 3 to the response categories, respectively, of “not at all,” “several days,” “more than half the days,” and “nearly every day.”

GAD-7 total score for the seven items ranges from 0 to 21.

0–4: minimal anxiety
5–9: mild anxiety
10–14: moderate anxiety
15–21: severe anxiety
# Appendix C

## Patient Health Questionnaire (PHQ-9)

**Patient Name:** ____________________________  **Date:** __________

<table>
<thead>
<tr>
<th>1. Over the last 2 weeks, how often have you been bothered by any of the following problems?</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Little interest or pleasure in doing things</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Feeling down, depressed, or hopeless</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Trouble falling/staying asleep, sleeping too much</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Feeling tired or having little energy</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Poor appetite or overeating</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f. Feeling bad about yourself or that you are a failure or have let yourself or your family down</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g. Trouble concentrating on things, such as reading the newspaper or watching television.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h. Moving or speaking so slowly that other people could have noticed. Or the opposite; being so fidgety or restless that you have been moving around a lot more than usual.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>i. Thoughts that you would be better off dead or of hurting yourself in some way.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

2. If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?  

<table>
<thead>
<tr>
<th>Not difficult at all</th>
<th>Somewhat difficult</th>
<th>Very difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
PHQ-9* Questionnaire for Depression Scoring and Interpretation Guide

For physician use only

Scoring:
Count the number (number) of boxes checked in a column. Multiply that number by the value indicated below, then add the subtotal to produce a total score. The possible range is 0-27. Use the table below to interpret the PHQ-9 score.

| Not at all | (number) x 0 = |
| Several days | (number) x 1 = |
| More than half the days | (number) x 2 = |
| Nearly every day | (number) x 3 = |

Total score: 

<table>
<thead>
<tr>
<th>Interpreting PHQ-9 Scores</th>
<th>Score</th>
<th>Actions Based on PH9 Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal depression</td>
<td>0-4</td>
<td>&lt; 4</td>
</tr>
<tr>
<td>Mild depression</td>
<td>5-9</td>
<td>&gt; 5 - 14</td>
</tr>
<tr>
<td>Moderate depression</td>
<td>10-14</td>
<td>&gt; 15</td>
</tr>
<tr>
<td>Moderately severe depression</td>
<td>15-19</td>
<td></td>
</tr>
<tr>
<td>Severe depression</td>
<td>20-27</td>
<td></td>
</tr>
</tbody>
</table>

* PHQ-9 is described in more detail at the McArthur Institute on Depression & Primary Care website
www.depression-primarycare.org/clinicians/toolkits/materials/forms/phq9