Investigating the Role of Collegiate Athletic Director in Addressing Head Trauma Prevention

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I have no known conflict of interest to disclose.

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Abstract

Within collegiate athletics, there is a growing interest in the management of head trauma incidents. This qualitative study was designed to answer two research questions: (1) What is the role of athletic directors in the management of head trauma prevention? (2) What are the major concerns of athletic directors regarding head trauma prevention and what should happen in the future? Findings from the research questions revealed three themes: (a) Indirect mention of head trauma prevention in athletic director job description, (b) athletic director delegation to medical professionals, and (c) athletic directors want more research and education on head trauma prevention. Although new in scholarly research, head trauma prevention should continue to be a priority for collegiate athletic directors.

Keywords: athletic director, head trauma prevention, management

Dedication

My thesis is dedicated to all student-athletes who have experienced a head trauma incident. Their love of the game and advocacy of player safety has inspired me to study how those within the athletic department can protect and enhance their lives. It is my wish that all collegiate student-athletes are able to experience an environment focused on their health and safety.

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I want to thank my mentor and former professor, Charley Bowen, who inspired me to combine my love of athletics with safety in pursuing a career in collegiate athletics. Heartfelt thank you to my advisor Dr. Heisey for his patience, guidance, and expertise throughout the thesis process. My parents and siblings have been a voice of support throughout my journey, vital in my educational pursuits. And lastly, my wife who has been a huge support and fan in the endless hours of research and continuing education. This important work was a group effort.

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Chapter One: Introduction

1.1 Background

In 2011, a former Eastern Illinois football player filed a lawsuit against the National Collegiate Athletic Association (NCAA), which claimed the NCAA failed to protect student-athletes who now suffer from the long-term effects of concussions (Axon, 2014). The former player had five documented concussions while playing at Eastern Illinois and suffered from seizures, leaving him unable to drive or maintain a job. The lawsuit ignited hundreds of lawsuits against the NCAA related to head trauma prevention. Much of the litigation would become consolidated in a class action complaint against the NCAA accusing negligence and breach of duty to protect student-athletes by "failing to adopt appropriate rules regarding concussions," and for negligence in managing the risks of concussions (National Collegiate Athletic Association [NCAA], 2020). After this consolidation, the NCAA reached a $75 million settlement, with $70 million going toward a medical monitoring system and the rest toward concussion research (Bauer-Wolf, 2018). Although seemingly minor compared to the nearly $1 billion settlement by the National Football League (NFL), the NCAA's steps provided insight into the future management of head trauma incidents (Fainaru-Wada, 2017).

The sheer number of lawsuits is alarming for the collegiate world and should produce considerable thought for sport management professionals. Lawsuits and actions not only targeted the NCAA but also individual universities. Through the NCAA concussion litigation case, the settlement relieved the NCAA from claims of negligence. At the same time individual institutions would be responsible for providing the student-athletes' contact information for

participation in the medical monitoring program. The medical monitoring program would only provide up to two complimentary medical evaluations for inquiring student-athletes (NCAA, 2016). Despite the NCAA settlement, the agreement does not release universities from total liability related to concussions, only those who were part of the original settlement class. There are ways that institutions can apply with the NCAA to waive liability for the NCAA litigation settlement plaintiffs; however, any student-athlete who sustains a sport-related concussion (SRC) at a college or university can still bring claims to the NCAA or the school itself (Galanos, 2020).

Six universities and athletic conferences were named in class-action lawsuits in 2016, including Penn State, Vanderbilt, the Big Ten, Southeastern Conference (SEC), and the Pacific-12. Each of the lawsuits claimed negligence of the universities or conferences regarding the handling of their student-athletes' head injuries and general athletics and demanded new safety protocols to be instituted (Strauss, 2016). The potential for litigation or liability of student-athletes who sustain concussions during athletic activity will continue for universities and colleges requiring a proactive athletic director (AD) charged with student-athletes' safety.

1.1.1 Significance of Study

Between 2009-2014, there was a minimal average of 10,000 concussions in collegiate sports (Zuckerman et al., 2015). According to the Centers for Disease Control (CDC), sports concussions in the United States have reached an epidemic level due to nearly doubling the rate of occurrence in the last 10 years (Prevacus, 2018). Among adolescents aged 10-19, there was a 60% overall increase of SRCs from 2007 to 2014, with a 143% increase in concussion incidence in the 10-14 age group (Zhang et al., 2016). Similarly, according to information from the NCAA Injury Surveillance Program, student-athletes' concussion rates increased in some contact sports such as football, lacrosse, and hockey. However, it is unknown if the increase in concussion rates

resulted from increased reporting and awareness or the increased frequency of concussions (Zuckerman et al., 2015).

Regardless of the reason for increased rates of concussions in collegiate athletics, the concern appears highly relevant to athletic administration maintenance of student-athlete safety. If a college or university wants to address the concern from spectators, participants, stakeholders, and administration, a thorough study of the subject matter related to athletic department management is necessary. Due to what appears to be limited conversation on the study of athletic management responsibilities over head trauma, this study is an ideal foundation for future investigations of the subject matter. Therefore, this study considered the role of athletic management and head trauma prevention planning (practice/protocols).

1.2 Purpose

The purpose of this study was to qualitatively collect data investigating athletic management and the perceived role of athletic directors regarding head trauma prevention. There appeared to be no universal procedure for athletic management regarding head trauma prevention aside from the NCAA's best practices (Klossner, 2014). For colleges and universities to ensure the health and safety of student-athletes and preserve the integrity of athletics, a prevention plan for head trauma should be constructed. Head trauma emergency action planning should significantly impact the risk management of an athletic department. There appears to be no current research on the specific role of the AD regarding head trauma prevention. An understanding of the AD role can shed new light on head trauma prevention at an institutional level. The study also aimed to determine the concerns of the AD and future ideas about head trauma prevention for their respective institutions.

1.2.1 Problem Statement

The underlying theme of head trauma litigation appeared to revolve around negligence and lack of preventive measures by the institutions, conferences, and the NCAA. To correctly manage any difficulties or complications arising from continual head trauma incidents, a prevention plan should be in place to address concerns of student-athlete health and safety.

As a matter of practice, the NCAA requires institutions to have individualized concussion management plans. Baugh et al. (2015) indicate the institutional concussion management plans must have annual processes ensuring that student-athletes are educated about the signs and symptoms of concussions. The plan also states that the student-athletes must be evaluated by a medical staff member, include a policy preventing a return-to-play for the rest of the day when a concussion is diagnosed, and that the plan contain a policy requiring medical clearance to return to athletic activity (Baugh et al., 2015). Although an indication for a plan is required, mention of an actual head trauma prevention plan is less specific. The AD of a collegiate athletic organization assumes responsibility for the whole athletic department, yet there appears to be no studies on the AD's perceived role regarding a head trauma prevention plan.

1.2.2 Research Questions

The research questions in this study were directed to collegiate head ADs:

- What is the perceived role of ADs in the management of head trauma prevention?
- What are the major concerns of ADs regarding head trauma prevention and what should happen in the future?

1.3 Definition of Terms

NCAA – National Collegiate Athletic Association – Organization head with over 1,000 colleges and universities with 500,000 participants over the 40 sport organizations and three separate Division levels (NCAA, 2018).

CTE – Chronic Traumatic Encephalopathy – Brain disease affecting those with repetitive hits to the head (Asken et al., 2016).

Concussion – Diagnosed traumatic brain injury induced by biomechanical forces (Soomro et al., 2018).

Head Trauma – Any incident of trauma to the head region that does not necessarily lead to concussion diagnosis.

SRC – Sport-related concussion - Any concussion sustained in a sport activity (Muth, 2018).

Head Trauma - Injury to the head as a result of blow to the head; injuries could include brain injury or any damage to structure of the head (Stoppler, 2018).

TBI – Traumatic Brain Injury – Disruption in the normal function of the brain that can be caused by a bump, blow, or jolt to the head (Pervez et al., 2018).

Chapter Two: Literature Review

2.1 Introduction

On September 29th, 2018, sophomore Christian Abercrombie from Tennessee State University took on a block by an opposing football player, which resulted in a head injury. After moving to the sideline, Christian collapsed and was rushed to a medical center in critical condition (Burns, 2018). What was considered a standard football blocking move turned to be a life-saving mission, a concept that happens more than necessary in a contact sport. According to a study on the prevalence of concussions at the collegiate level, there are an estimated 10,000 concussions annually across all sports (Zuckerman et al., 2015). The issue of head trauma in sport has reached a catastrophic level affecting all levels of sports. Although there are indications of some sports revealing a substantial rise in concussions (Zuckerman et al., 2015), some researchers believe the increase was influenced by factors such as increased public awareness, reporting laws, and new diagnostic guidelines for physicians and individuals (Langer et al., 2020). Regardless of incidence, head trauma has gained enough attention to require further research and investigation.

Research of concussions and the long-term consequences of head trauma is still early in the research cycle. However, there are continued investigations and evaluations to help the athletic community better serve those who play a sport. At the collegiate level, there was a combined effort with the United States government to launch the Concussion Assessment, Research and Education Consortium (CARE), which began in 2014 and serves as a large-scale concussion study (Broglio et al., 2017). Efforts are being made to help address concussions in order to serve the medical well-being of athletes. Despite the efforts, there is limited research on

head trauma prevention and precisely how it relates to the role of athletic management, specifically the AD.

An AD stands at the pinnacle of sport administration at the collegiate level and has the subsequent direction of athletic programs at their institution. Due to the influential position of the AD, there must be an emphasis on how the position impacts the concern of head trauma prevention. To provide context for the study, this literature review discussed the issue of the known role of AD regarding head trauma, current concussion protocols, underreporting of concussions, and ended with a discussion on the health concerns of repetitive head trauma. The purpose of this literature review was to discuss the current research surrounding the role of an AD and the state of head trauma prevention in the collegiate atmosphere.

2.2. Evolution of Athletic Director Role

The role of the AD is diffuse and ever-evolving. The NCAA listed examples of the AD's responsibilities as oversight over the entire athletic department, managing personnel in all aspects, communicating internally and externally, marketing and fundraising management, fiscal management, facilities oversight, and community relations. The NCAA also stated that there is nothing more important than "ensuring the well-being of the student-athletes for whom you are responsible" (NCAA, n.d.-d, p. 7). Updates and changes to the fiscal responsibilities, facilities, marketing techniques, and personnel are expected and within the AD scope. The evolution of the AD role has come through the responsibility for the well-being of the student-athletes. There have been changes such as gender and sexual orientation equality and disability accommodations that changed how the AD can create an inviting environment and ensure each student-athlete's safety (Hoch, 2018). Advancements in medicine and further education on the physical or mental impacts of contact sports on the student-athlete in the future have changed the loosely defined

well-being responsibility of the AD. One analyst commented that the new AD must be a sports medicine expert, human resources director, and educator rather than the stereotyped position of just hiring and firing coaches (Doyle, 2016). With the growing concern over head trauma in the last decade, the AD's responsibility and role have evolved to address the AD's previously limited understanding of their role in head trauma prevention.

2.3 Athletic Director Role in Head Trauma

To address the issue of concussions for an AD, it is essential to understand what the NCAA and others are currently doing to address the same problem. The reactions and methods of handling concussions had a core of concussion protocols that are expected to be followed by all, as mentioned before; however, the current literature was on an individual program basis subject to change depending on the needs within the department and various sports programs.

A large point of influence begins with the NFL and how the elite professional level of sport managed the issue of head trauma and concussions. The NFL recently created a Head, Neck, and Spine committee as an independent group of experts to discuss the needs and research of traumatic brain injury (TBI) and concussions. According to one evaluation of the NFL, the committee was a great way to combat the potential scandal and controversy previously tied to the league (Ellenbogen et al., 2010). The impactful influence the NFL has on the nation and future of sports serves as an example to collegiate administration of what to do and to learn from the NFL's mistakes.

At the collegiate level, there is scrutiny on how the NCAA handles concussions, making the issue for ADs a pressing matter. Petty (2014) investigated articles on the history of concussions and controversy of college football found there was significant legal liability for the NCAA and how the organization dealt with the issue of concussions. Results suggested the

NCAA had a duty to protect participants from harm and to address the concern there were proposed improvements, including mandatory testing, limiting contact in practice settings, and increasing the awareness and education of individuals (Petty, 2014).

LeCrom & Pratt (2016) addressed the relationship between the AD and university president, who serves as a superior to the AD and can work in tandem to address head trauma prevention concerns. A study interviewing ADs and discussing their relationship with the university president found four themes: trust and communications, alignment, respect for expertise, and formal and informal relationships (LeCrom & Pratt, 2016). Improving or maintaining a positive relationship with the university president assures the AD that each will support the other when addressing concussions. The relationship between AD and the athletic trainer is essential as one study found that the athletic trainer has substantial pressure from the coaches and AD to place individuals who sustain a significant hit to the head back in play, perhaps before the student-athlete should be cleared to resume normal sport activities (Ciccolella et al., 2017). Athletic trainers may have recommendations on head trauma prevention plans; however, the AD's role in establishing or enforcing such plans remained unknown (Register-Mihalik et al., 2019). The research on positive relationships between ADs, university presidents, and athletic trainers appears to be a group effort in the role of head trauma prevention.

Despite research on how other professional leagues handle head trauma prevention and a combined effort on athlete safety among various university presidents and athletic department staff, there is little research on the AD's fundamental role in head trauma prevention. In the foreword of the NCAA Sports Medicine Handbook, there is a brief statement regarding the role of ADs in athlete safety: "The institution, through its athletics director, is responsible for establishing a safe environment for its student-athletes to participate in its intercollegiate

athletics program (Klossner, 2013, p. 4). For sure, the AD is responsible for creating a safe environment, which includes following minimal legislation on having a head trauma management plan on file, which is discussed in section 2.4 (Klossner, 2013, p. 64). As a reference for ADs, a Uniform Standard of Care or Best Practices has been adopted and shared by the NCAA on recommendations. The recommendations are not legislation, but suggestions for head trauma management plans or care (Klossner, 2013, p. 65). Based on the current research, there are a few requirements from concussion legislation, but otherwise, just recommendations provided by the NCAA sports medicine staff on how to keep student-athletes safe. Considering the relationship with university presidents and athletic trainers, the management plan is a group effort.

2.4 Prevention Versus Management

Throughout this study, the term prevention plan was used in place of a more general management plan reference. As already mentioned, a concussion management plan is required by NCAA legislation to be used as a basic guideline and not limit the member institution in implementing more (Parson, 2014). The NCAA recently created a Sport Science Institute (SSI) to continue research and implement best practices for student-athletes' health and safety (NCAA, n.d.-c). The SSI introduced a document providing recommendations on preventing catastrophic injury and death of collegiate athletes. The document was considered an NCAA Uniform Standard of Care (SOC), meaning it is a recommendation and not required by NCAA member institutions. This SOC provided information on various health considerations, including a recommended checklist to have prevention measures in place to prevent severe head trauma and other catastrophic events (NCAA, 2019). The importance of preparation and prevention was mentioned explicitly in the collaborated NCAA and CDC fact sheet on concussions distributed to

coaches on creating a plan to “prevent long-term problems” with the motto “When in doubt, sit them out” (NCAA, n.d.-a). The NCAA also provided a concussion safety protocol checklist recommending a plan on “limiting exposure to Head Trauma” (NCAA, n.d.-b). Management is a commonly used term; however, prevention is the route that the NCAA prefers to address severe head trauma incidents. Both terms are used in the study to understand management plan details while providing their perceived role in the prevention of head trauma.

2.5 Concussion Protocols

A theme investigated in the current research on assisting ADs in addressing the issue of head trauma is the current state of concussion protocols. The NCAA adopted concussion legislation that required each institution to have a concussion management plan containing at least four items (Parsons, 2014): First, there must be an annual process to educate student-athletes on concussions, including information that assigns responsibility to the student-athlete to report concussion-related injuries to a medical staff member. Second, there must be a process to ensure that a student-athlete with signs or symptoms of a concussion will be removed from athletic activity to be evaluated by medical staff with “experience in the evaluation and management of concussions” (p. 63). Third, the policy prevents a student-athlete diagnosed with a concussion from returning to athletic activity for at least the rest of the day. Lastly, the policy requires medical clearance for a student-athlete diagnosed with a concussion as determined by a physician or physician’s designee. The concussion management legislation required each NCAA member institution to have a plan in place, with no further specific legislation on head trauma indicated. However, the NCAA did provide additional information on concussion management legislation, such as information on return to activity and return to learn in the NCAA Sports Medicine Handbook (Parsons, 2014).

Many college athletes undergo concussion testing before the season or practices start to determine a baseline of balance, mental capacity, and memory capabilities. If a student-athlete were to sustain a severe TBI or hit to the head that warranted an evaluation of brain functioning, the athlete would undergo the same testing series to see how they may have veered from the baseline conducted at the beginning of the season. This testing could be used in conjunction with another testing to diagnose a TBI or SRC resulting from any play of collegiate athletics. The testing is universal throughout the NCAA football programs. The testing is known as the Immediate Post-Concussion Assessment and Cognitive Test, or ImPACT. The ImPACT testing entails a neurocognitive test that uses a computer-based system to assess neurocognitive function and concussion symptoms. The test is used to establish a baseline and diagnosing tool during concussion evaluations (Covassin et al., 2009). In addition to the athletic trainers available throughout the game based on the team's size, the university may also hire the consulting opinion of a medical doctor who can assist the athletic trainer in the evaluation of an individual sustaining a hard hit to the head.

Lawrence and Hutchinson (2017) evaluated concussions in London, determining there should be more power and trust given to those individuals who are charged with the health of those playing sports such as the athletic trainers, coaches, and officials, rather than relying solely on the examination of a physician who can prolong the recovery time of the SRC victim. The reliance on a physician could put a strain on the healthcare system, and while including a physician in the process should remain, the researchers believed that empowering all involved in the concussion care of the student-athlete would benefit the athlete population in recovery (Lawrence & Hutchison, 2017).

The concern over physician diagnosis of concussions was curious considering an evaluation of a physician would seem useful in diagnosing an SRC of an individual. However, support for this view was consistent with a study published finding that head imaging is not necessary for the proper diagnoses of a concussion and emphasizes that importance of proper procedure of sideline evaluation of the individual playing sports since the symptoms of the SRC can last as long as 10 to 14 days (Muth, 2018).

Proper sideline evaluation can be challenging to conduct, but there is some research regarding the best possible way to evaluate a potential candidate for an SRC. Putukian et al. (2015) investigated the effectiveness of a variety of concussion rating tools for a person suspected of an SRC and found the Sport Concussion Assessment Tool 2 (SCAT-2) as the most useful tool in diagnosing a concussion on the sideline for the early prevention of severe injury and quick recovery (Putukian et al., 2015). The SCAT-2 uses various assessment methods such as symptoms, medical Glasgow Coma Scale (GCS), cognition, balance, coordination, and cognitive assessment (Radoi et al., 2019). Although the SCAT-2 has a numbering system, there is no defined number cutoff if a player has a concussion. Nevertheless, an extensive evaluation was proven effective in diagnosing the individual.

An additional study indicated that early education, cognitive behavioral therapy, and exercise therapy can be used to address the potential post-concussive syndrome (PCS) resulting from an SRC (Leddy et al., 2012). Rehabilitation and evaluation of concussions are essential for athletic programs. Understanding this research can assist the AD in preparing for the longevity of individuals in their department while also assuring that each program has the necessary tools and resources to address SRCs on the field of play.

2.6 Underreporting of Concussions

A growing issue of head trauma incidents is the underreporting of concussions and factors related to the individuals' reasoning. Underreporting is necessary research found in this literature review due to the influence the AD can have on the department to emphasize the health and importance of reporting concussions by the individuals, coaches, and athletic trainers. According to a study of 200 NCAA Division I student-athletes, half of the participants did not self-report suspected concussions, and half did not report symptoms observed of teammates (Davies & Bird, 2015). The finding was alarming as the participants felt that the hit to the head was not a serious enough incident to report. In a similar study of over 300 student-athletes, only 8% had a diagnosed concussion, but half continued to participate in a game or practice after experiencing PCS or a possible concussion. Additionally, those in this study indicated that pressure from parents, fans, coaches, and teammates impacted their reasoning for not reporting their concussion symptoms (Kroshus et al., 2015).

Research indicated points of notice for those in the athletic department's leadership positions to address the underreporting of individuals who sustain concussion-like symptoms. One research study found that 12-60% of college athletes delay seeking care after a concussion, with indications that if the individual has a positive relationship with their coach, they are more likely to seek care earlier and report their concussions (Milroy et al., 2018). The appropriate reporting of concussions due to a positive relationship with a coach aided what leaders can do to address the concussion issue internally or face serious repercussions.

A study of injuries in college athletics found that those who sustain a physician-diagnosed concussion have a two times more likely chance of having a lower extremity injury due to the neurological impairments after a concussion when compared to those who do not

sustain a concussion (Lynall et al., 2015). In seeking input from those who play sports, NCAA varsity football players indicated that peer pressure, football culture, and player awareness were reasons affecting the return-to-play after sustaining a concussion (Tjong et al., 2017). In another study of 133 rugby players, 63% indicated that they failed to report their concussion due to not thinking the injury was severe enough, 41% did not want to leave the field of play, and 36% were unaware that they sustained a concussion (Kirk et al., 2018).

Aside from apparent altered mental status or loss of consciousness, initiation of concussion protocol can frequently rely on the individual's self-report. It is imperative to understand the player's mindset and provide them with an atmosphere free from peer pressure. Additionally, players should be surrounded by positive relationships that encourage the well-being and safety of the individual to increase the reporting of concussion-like symptoms. The NCAA Sports Medicine Handbook identified each student-athlete must sign a statement in which they "accept responsibility for reporting their injuries and illness to the institutional medical staff, including signs and symptoms of concussions" (Parsons, p. 63, 2014). Although self-reporting may not be possible in some situations of loss of consciousness or altered mental status, a positive environment that encourages self-reporting of the student-athlete's symptoms, combined with skilled athletic training, medical staff, and vigilant coaches or teammates can lead to proper initiation of concussion protocols. Evaluation of research on the underreporting of concussions provides the AD with an inside look of the individuals they oversee to decide how the department will address the issue of the concussions.

2.7 Health Concerns of Head Trauma

Of critical importance regarding the issue of head trauma is understanding the consequences of repetitive hits to the head. By understanding more about the consequences of

concussions, an AD will be able to address the issue more fully while having a sense of reality regarding the long-term health of the individuals who play sport. A term that is becoming more of a household discussion is chronic traumatic encephalopathy (CTE). In a survey of 1,000 American adults, 87% of participants agree that CTE is a serious public health issue, 85% believe that playing football can cause CTE, and a majority believe that professional and college sport organizations have not done enough to address the concussion issue (Dyck et al., 2016). The issue of head trauma is apparent and felt throughout a majority of citizens, even if they are not personally involved with sports. CTE is a degenerative brain disease in which a protein forms clots in the brain that subsequently kill brain cells. CTE was found in those with a history of repetitive brain trauma or hits to the head, including those who participated in sports and military personnel (Concussion Legacy Foundation, 2018). CTE is a silent killer that affects the health of many athletes' around the world.

According to an extensive study on over 200 deceased football players, including those whose family reached out to the Boston University brain bank after death in order to learn more about their loved one's brain as well as a small sample of players that requested their brain be donated upon death, CTE was found in 87% of individuals. The study's demographics stated that 91% participated in collegiate sports, and 99% participated in the NFL. Most alarming from this study was the median age of death, which was found to be 67 years old, with 33% of the former football players exhibiting signs of dementia by the time of death from the 47 to 76-year-old range of participants (Mez et al., 2017). The astonishing statistics on the consequences of repetitive hits to the heads are eye-opening and serve as a call to assist in the health and well-being of players of all sports. Diseases such as CTE are not the direct result of concussions, but diagnosed concussions involve head trauma consistent with the repetitive head trauma associated

with such diseases. With that in mind, it is necessary to understand concussions better to address the issue head-on.

Current research completed by the NCAA indicated an average of 10,000 SRCs annually over a period of five years (Zuckerman et al., 2015). This study was isolated to the NCAA divisions, compared to the estimated 1.6 to 3.8 million SRCs in the United States annually (Prevacus, 2018). There is a significant number of head trauma incidents annually and should be understood when an AD looks at the sport departments they oversee. While the symptoms of concussions are generally temporary, repeated concussions can lead to the long-term consequences devastating the lives of those affected (Norton et al., 2013). Although the rate of repeated concussions may seem to be the exception rather than the norm, research indicated a high rate of those who have repeated concussions.

In a study of student-athletes diagnosed with a concussion from 1998-2011, 43% of the participants who had sustained a concussion had from one to three previously diagnosed concussions. The issues related to their concussions led to the retirement of over 10% of the individuals from the sport they played, and about 6% of the individuals experienced memory and concentration impairments lasting over one year (Mayers, 2013).

Despite the concerns of concussions and the overwhelming atmosphere of the health concerns for those who play sport, there is hope and necessary improvements that must be understood by ADs. The NCAA partnered with the Department of Defense to create a service called CARE, which is designed to study the injury prevention, safety, and medical care for college students and military personnel who have sustained brain TBI or concussions during their line of work, including war and athletics (Broglio et al., 2017). CARE provided hope to those affected by concussions with the NCAA conducting studies on concussions to identify

factors regarding the concussion issue in sports. Another point to address is the clinical factors necessary to research going forward.

One study investigating important clinical factors of CTE research indicated instead of focusing on causes, history, or the implications of CTE, which occupies most of the CTE scholarly community, there should be a focus on factors such as aging, adjusting to retirement, drug abuse, and sleep difficulties when considering treatment options for those affected by CTE and PCS (Asken et al., 2016). Current research on CTE and the long-term consequences of concussions is vital in the scholarly community of ADs addressing the issue of concussions to the respective departments.

2.8 Overview

As shown in the literature review, there was limited research on the AD's role regarding head trauma prevention. The importance of advocacy for the student-athlete's health and safety while managing the entire athletic department is present, but further research can provide insight into the executive role. Concussion protocols indicated ways to address the issue of head trauma from recognition to diagnosis, but less on prevention. Prevention is a lofty goal for the NCAA to use but commended as an effort to be proactive in the health and safety of student-athletes. The underreporting of concussion is a serious and present issue discussed with the need for vigilant coaches and medical staff to assist the student-athlete in self-reporting when physically and mentally able to. Additionally, the seriousness of repetitive head trauma in contact sport leading to health concerns has elevated the public eye on sports concussions. While newly discussed in the research community, health concerns are present and should remain a powerful note for an AD to address in a head trauma prevention plan. Throughout the literature review, the research

on head trauma was introduced to influence the need to study the role of the AD in addressing head trauma, and specifically in developing a necessary prevention plan.

Chapter Three: Methodology

3.1 Overview

This study is investigating the role of a collegiate AD in managing head trauma prevention in student-athletes. The AD stands at the pinnacle of sport management in collegiate athletics, directing the sports program at his or her represented college or university. For this cause, the data source for this study was head ADs of several collegiate programs. To obtain a grasp of the role of ADs in head trauma prevention, the methodology chosen was the phenomenology method.

Using the principles of the phenomenology method, a semi-structured guideline was created to conduct interviews of collegiate ADs answering two main research questions: *What is the perceived role of ADs in the management of head trauma prevention? What are the major concerns of ADs regarding head trauma prevention and what should happen in the future?* The following sections explain the methodology and processes taken in the phenomenological, qualitative research.

3.2 Methodology

Qualitative research was best suited for this study because it provided an outline for understanding the role of ADs in head trauma prevention. Qualitative research identifies as a method to examine concepts and their meanings and interpretations through a study exploring an unknown phenomenon (Gammelgaard, 2017). The goal is to understand the phenomenon in the subject's natural setting for an accurate display of information (Cypress, 2019). Due to the previously unknown role of ADs regarding head trauma prevention, it was essential to investigate and learn through these qualitative measures. Nassaji (2020) wrote that qualitative research is systematic and involves the careful process of identifying, collecting, analyzing, and

interpreting the data. This process allows for natural inquiry and seeks to understand and explore, which is what this study aimed to provide. (Nassaji, 2020).

In contrast to qualitative research, quantitative research focuses on measurement and indicators, rather than the meaning and process of the research topic (Goertz & Mahoney, 2012, p. 105). Qualitative research remained the appropriate method for this study with careful precautions in data collection and analysis using interview transcripts. Once qualitative research was suited as the most appropriate form of research for this study, different qualitative research methods were studied. After extensive study, phenomenology emerged as the preferred form of qualitative research corresponding to this study's purpose and objectives (Crowther et al., 2017; Englander, 2012; Hoffding & Martiny, 2015; Quay, 2015).

3.2.1 Phenomenology

According to Max van Manen (2014), phenomenological research attempts to grasp the identity and essence of a phenomenon, "surrendering to a state of wonder" (p. 27). In this study, head trauma prevention within the field of collegiate athletics was a phenomenon worth researching. Specifically, in this work, the phenomenon of the AD on the perceived role in head trauma prevention was investigated. A particular form of phenomenology is hermeneutic phenomenology. Hermeneutic phenomenology is a creative approach aimed away from a "right" or "wrong" way to do things, but instead find that which is rarely noticed or described (Crowther et al., 2017, p. 827). Built on the principles of hermeneutic phenomenology, this study aimed to understand and describe the AD experiences and their perceived role in head trauma prevention, which is currently not researched at the AD's role.

Studying the works of phenomenological researcher Martin Heidegger, phenomenological research focuses on investigating the different ways people think about

phenomena (Quay, 2015). The identifying start of phenomenological research is "identifying what it is that deeply interests you…identifying this interest as a true phenomenon" (van Manen, 1990, p. 40). For this study, the phenomenon is the perceived role of ADs regarding head trauma prevention and a strong interest to be studied. The phenomenon is the subject of investigation and source of data collection in the research (Englander, 2012). The research goal was to use a qualitative research method of phenomenology, which allowed the ability to study human experiences on a topic that creates a sense of wonder. Phenomenology is a challenge to go beyond and recognize that the phenomenon studied changes and evolves, in constant need for study and investigation (Finlay, 2012). Rather than focus on existing research of coaches or athletic training staff regarding head trauma prevention, this study focused on the executive position of the AD as manager and leader of the athletics department of a college or university.

Other method considerations were case study and ethnography. Stake (2005) described qualitative case studies as a choice to study a specific case and use any method to study that case. Similarly, a qualitative case study can be a way to explore an occurrence within its context by using a variety of data sources to find the "how" and the "why" questions (Baxter & Jack, 2008, p. 545). Due to the limited current research on the AD's role regarding head trauma prevention, a case study was not suited for this study. This study's objective was to learn more about the phenomenon of head trauma prevention from the AD perspective and allow this topic to guide the research. Ethnography was not chosen as observing or interacting with the subjects in their environment was not plausible for investigating the reported and perceived role ADs have regarding head trauma prevention.

3.3 Design Study

The research design was conducted through a qualitative study discovering the role of an AD. The purpose of the study was to investigate and learn more about the unknown phenomenon. In order to accomplish this task, a quantitative method was not chosen. By utilizing a qualitative study, learning from the experts in the athletic department at a collegiate level will provide research on the role of AD. Research is designed to allow the subjects to drive the conversation and what is most important to the participants (Qu & Dumay, 2011).

3.3.1 Researcher Role

The role of the researcher was multi-faceted to include several responsibilities. The researcher has a very active role in the qualitative research process. The logistical responsibilities include the ability to recruit, select, and interview participants. For the data collection of the research, the interview serves as the data source collection. The researcher completed IRB ethics training and conducted a mock interview to create an interview guideline and appropriate timing (Goodell et al., 2016). The interview process required extensive planning, expertise, and knowledge on the phenomenon to ask insightful questions, the ability to listen, and study behavior in the researcher's active role (Qu & Dumay, 2011). Throughout the interview process, a semi-structured guideline was followed to encourage open conversation with the participant. A study detailing the organization of a semi-structured interview guideline emphasized that the style can be flexible, and the structure can be tailored to the study purpose and research questions (Kallio et al., 2016). The interview guide was also structured not to pose leading questions and limit any researcher bias (Qu & Dumay, 2011). The researcher could revise the guideline or ask additional questions based on the participant statements that lead to modifying the next question (Hoffding & Martiny, 2015). After data collection, the researcher was responsible for compiling

and analyzing the data for coding and analysis purposes. The researcher remained a central and active role throughout the qualitative research process.

3.3.2 Research Questions

The purpose of this study is to learn the experiences and their perceived role of collegiate ADs in answering the following questions:

RQ1: What is the perceived role of ADs in the management of head trauma prevention?

RQ2: What are the major concerns of ADs regarding head trauma prevention and what should happen in the future?

3.4 Selection of Participants

The study population was the head ADs at Division I, II, and III colleges and universities within the NCAA. The head AD at the selected institution was the selected position due to the executive role over the athletic department's operational function and the current study purpose to investigate the AD's role. All participants were informed of the purpose of the study through a consent form and requested to provide a signed consent form prior to the interview data collection. Communication with the participants was through email recruitment directly with the AD, or the administrative assistant or secretary for the AD if one was provided. The email recruitment guideline form is provided in **Appendix B**. The email address of participants and screening of study criteria were conducted through internet searches on the official athletics page for the selected college or university indicating the title of the AD.

The selection of potential participants was based on internet research and investigation into a variety of NCAA members. A combination of criterion and stratified purposeful sampling was used in selecting the potential participants. According to Suri (2011), criterion sampling identifies and selects subjects that meet some predetermined criterion of importance. In this

study, the criterion was head ADs at NCAA institutions. Selected potential participants were from all levels of the NCAA as the purpose of the study was to investigate the perceived role of the AD in head trauma regardless of division level. Stratified purposeful sampling is defined as a purposeful sampling of the population, then selecting participants based on indicators to increase variation and credibility in qualitative research (Cohen & Crabtree, 2006). The ADs were purposefully sampled and then selected based on the number of sports with a variety of contact and non-contact sports, NCAA level at the institution, and institution's size to provide a stratified sampling of participants for variation and credibility to the study (Suri, 2011). Snowball sampling or referrals from existing participants were welcomed but did not find success in this study.

The final selection of participants was completed after successful recruitment and consent to participate in the study. A target number of participants planned to enroll for the study was 10, based on the research of phenomenological studies to include a range of 6-10 considering that there are no other studies to compare this study to (Marshall et al., 2013). Seven participants were sufficient to gather themes within the data. The sample size was subject to change, considering the evaluation and analysis of collected data. O'Reilly & Parker (2013) commented that the sample size in qualitative research should be completed when data saturation is reached, having enough information that the data was representative of the participants. Data saturation is reached when the ability to obtain additional new information has been attained, and when no further coding is feasible (Guest et al., 2006). For this study, saturation was reached when the data revealed repetitive common themes and contained all information necessary to answer the research questions (Lowe et al., 2018).

3.5 Data Collection

The research used in this study was obtained by conducting interviews with the head ADs of collegiate athletic programs. The purpose of conducting an interview is to examine the perceived management of head trauma by ADs, which currently appears to be an unknown phenomenon. Interview questions were conducted in a semi-structured format with guideline questions and the ability to inquire further based on the responses of the participants. The guideline used for the semi-structured interview is located in **Appendix D**. The goal of the semi-structured interviews was to produce robust data that provide comprehension of the experiences, opinions, and positions of the participant (Peters & Halcomb, 2015).

3.5.1 Interview Frame

Corresponding with the chosen phenomenological method of qualitative research, an interview method was necessary. The means of interview communication were chosen to be a telephone interview or face-to-face interview based on the participant's availability and request. Each method was accepted to continue the goal of accommodating whichever method the participant preferred to feel comfortable answering the research questions (Gratton & Jones, 2010, p. 168). According to Stuckey (2013), there are three types of interviews in qualitative research: structured, semi-structured, and narrative. A structured method would not be appropriate for this study as the rigidity of questions and order defeats the purpose of exploring the phenomenon based on the participant's answers. Narrative interviews would not apply to this study considering the participant's currently unknown experiences and inability to inquire about specific responses through narrative style (Stuckey, 2013).

A semi-structured interview outline was chosen as the best interview frame for this study (Fusch & Ness, 2015; Kallio et al., 2016; Qu & Dumay, 2011; Stuckey, 2013). To apply the style

in this study, the topic of head trauma prevention is what was explored, but since the perceived role of the AD is not known, a semi-structured interview style was needed. The participants will be asked the same core questions; however, the semi-structured interview frame allowed the researcher to ask additional questions to clarify and collect additional necessary data from the participant (Fusch & Ness, 2015).

The process of creating the interview guideline was modeled after Kallio et al. (2016), which described the interview guide needing five phases, including identifying prerequisites, retrieving previous knowledge, formulating a preliminary guide, pilot test guide, and presenting the complete guide. Different interview guidelines were studied and selected consistent with the purpose of the study. A guideline of questions based on the study objectives and research questions was then tested on peers. The Liberty University IRB approved the guideline for the semi-structured interview, and the guideline is found in **Appendix D**.

The interview questions consisted of open and closed-ended questions, and single response or short response questions. The questions were grouped by likeness and followed a pattern leading to learning more about the role of the AD. Consistent with a qualitative research interview process, the questions were comprised of core research questions, with many associated questions to clarify and expand the central question, which will focus on content (Jamshed, 2014). The first question introduces the role and responsibilities of the AD for logistical understanding and distinguishing between the tasks and duties of ADs in their varying levels of NCAA divisions. The following question determined if student-athlete health or head trauma management is part of the job description of the AD or other staff members. Another question asked if the AD goes through annual training regarding head trauma. This first set of questions were designed to answer research question one.

The next set of questions was learning the process of return-to-play, return-to-learn, head trauma protocols, and safety procedures as understood by the AD. The next group of questions examined if the AD has a head trauma prevention plan at their institution or deferred to another division or organization. Regardless of an individual plan or not, each participant was asked how they would evaluate a head trauma prevention plan's success and if there are any new developments or resources devoted to head trauma at their institution. This set of questions will directly answer research question two.

The third set of questions dealt with the AD describing any school officials or staff involved with head trauma management, expectations of those staff involved with the management, and the major issues or concerns as the AD regarding head trauma prevention. The last question on the guideline was to learn what the AD would like to see in the future regarding head trauma prevention. The last set of questions answered research question three. A copy of the interview question guideline is found in **Appendix D**.

Despite the difficulty and time-consuming action of interviews for this study, to investigate the role of the AD in the most accurate representation, a question guideline was formed for the semi-structured interviews to gather comprehensive data on the role of the AD in head trauma prevention (Goodell et al., 2016; Qu & Dumay, 2011). The interview questions were reviewed and revised multiple times to establish a baseline guide of information required for the qualitative study while respecting the participants' confidentiality.

3.5.2 Interview Process

The process began with requesting permission to begin data collection by the Institutional Review Board (IRB) of Liberty University. Approval for research is located in **Appendix A.** Once obtained, an initial recruitment email, **Appendix B**, was sent directly to prospective

participants. If the AD had an administrative assistant, the recruitment email was sent to the AD's assistant containing information on the study and procedures if permission is granted. The initial time to complete the selection of participants was scheduled for one month but extended to continue the recruitment and selection of participants. After the participant's initial recruitment through email was approved, the participant was scheduled with an interview time with a consent form to be signed and returned before the interview data collection. There was only one participant who requested and was sent a copy of the interview question guideline before the interview. In total, there were eight subjects approved and consented to participation in the study. One participant, who signed a consent form and had an interview time, elected to be voluntarily removed from the study before data collection. Of the seven interviews, two were conducted face-to-face, and five were conducted over the telephone based on the participant's request.

Interview lengths varied with participants based on the responses to the open-ended questions from the interview question guideline. However, the interview guide was created and trialed to obtain a 10 to 20-minute time frame to give prospective participants (Jamshed, 2014). As expected, the interview time length was longer for face-to-face interviews. Most of the participants requested a 15-minute timeframe for scheduling purposes and were accommodated the request in such situations. The two interviews that were face-to-face lasted more than 20 minutes but no more than 30 minutes. The time frame allotted for the face-to-face interviews depended on the participant schedule and discussion of the semi-structured interview. For the telephone interviews, the length was between 10 minutes to 17 minutes, with an average of 12:50. The interview was voice-recorded and later transcribed to remove any identifiers for participant confidentiality.

3.5.3 Ethical Considerations and Confidentiality

The topic of head trauma prevention can be synonymous with concussions and thus present with a negative connotation. A survey by the Barrow Neurological Institute showed that four in 10 parents prevent their child from playing football, and three out of 10 teens chose not to play a sport due to concerns over concussion (Malkovich, 2019). The growing public concern over head trauma has led to lawsuits and questions of negligence on the side of the NCAA or individual institutions regarding student-athlete health (Axon, 2013). Ethical consideration was to ensure the participant did not feel accused or attacked on head trauma prevention protocols or plans (Gratton & Jones, 2010, p. 121). Although each of the participants reported compliance with the necessary legislation and uniform standard of care provided by the NCAA, there was a possibility of the participant revealing information perceived as negligent in their responsibility to maintain student-athlete safety. The purpose of this study was to understand more about the perceived role of AD regarding head trauma prevention as a unique and unstudied phenomenon. The researcher also finished the Collaborative Institutional Training Initiative (CITI) Research Ethics Training course for social and behavioral researchers prior to contacting participants. The semi-structured interview guideline was designed and tested to focus on learning and discovery rather than accuse or belittle the institution's handling of head trauma prevention. Once complete approval was obtained from the Liberty University IRB, contact was made to prospective participants.

In order to maintain the voluntary nature of the participants, each participant signed a consent form during the process of contact. The signed consent form, located in **Appendix C**, was collected prior to the interview and allowed the participant to ask any questions before the interview or recorded for transcript coding. Confidentiality was an emphasis throughout the data

collection process. Each participant was assigned a pseudonym for the designation of transcript writing and communication during recording. The master pseudonym list was kept on a password-locked computer and a passcode lockbox. Any identifying information from the interviews was removed during the transcript process. Every interview was audio recorded with the participant's permission from the consent form. The participant was also told when the recording would begin and end, with any identification designated by the given pseudonym (Gratton & Jones, 2010, p. 163). The audio recording device was kept in a passcode lockbox and maintained on hand for the designated IRB requirements. All interviews were conducted in a closed-door office of the participant or the researcher's closed-door home office to maintain privacy and ensure the participant or researcher cannot be easily overheard. The privacy would allow the participant to be comfortable answering questions (Gratton & Jones, 2010, p. 160).

A breach of confidentiality was the main potential risk of this study. However, steps were taken to ensure there was no breach. Extensive screening of each transcript was conducted to remove any information that could identify the participant. Before securing an interview time, the participant was provided information on confidentiality methods and risks described by the consent form and prior to interview recording (Gratton & Jones, 2010, p. 163). Each participant interviewed volunteered and signed the consent form acknowledging the risks and methods to maintain confidentiality. Also, before recording the interview, the participant was given an opportunity to ask any questions and was briefed on all steps for recording. The participants were informed of any risks and provided all information to remain voluntary and aware of confidentiality situations (Nijhawan et al., 2013). The participant was advised to refrain from mentioning any identifying information during the audio-recording portion of the interview but

assured that if they did, the information would be removed during the writing of the transcript. Confidentiality was kept by all methods throughout the data collection process.

3.5.4 Data Analysis

The written transcripts were analyzed using a data coding method to find common themes and similarities. Suddaby (2006) describes that data coding is the primary analytic process in qualitative research to categorize segments of data with a code and use the codes to sort and develop an explanation. The role of the researcher in data coding is an essential and active element in the research process (Suddaby, 2006). The data coding method selected was an open coding approach based on research on interview transcripts specific to the study's purpose (Maher et al., 2018; Vollstedt & Rezat, 2019). The open coding concept is based on coding on physical-colored markers on interview transcripts to reflect emerging themes (Guetterman et al., 2017). The physical coding using colors to designate themes allowed for a more comprehensive analysis of the data and immersive researcher process. A study on qualitative coding methods correlated with the desired method for this study to support a more visual practice than a computer-based process, which can be restrictive in findings (Maher et al., 2018). Pertinent information to answer the interview's main research questions, such as participant answers indicating the AD's perceived role in head trauma management based on the interview question guideline, were formatted into a document for further analysis. The reported perceived roles by the ADs in head trauma prevention led to repetitive descriptions and themes, consistent with the purpose of implementing qualitative research using a phenomenological approach (Hoffding & Martiny, 2015).

The written transcripts were analyzed to report on the perceived role of the ADs regarding head trauma prevention. To emphasize the importance of rigor in qualitative research

during data analysis, researcher bias was limited (Cypress, 2017). Bracketing was utilized to the extent of having enough knowledge to ask informed questions on the specific topic, reliability was accomplished by only investigating and reporting the perceived roles of the AD in head trauma prevention (Tufford & Newman, 2010. A committee of advisors was used with frequent debriefing sessions to review the results and identify appropriate emerging themes reflective of the data, with no breach of confidentiality during the analysis process. The committee identified themes based on the data collection consistent with the ADs' descriptions of their perceived roles in head trauma prevention (Harley & Cornelissen, 2020). Rather than interpret the perceived roles of the ADs, data analysis was designed to report the ADs perceived roles. Direct quotes were utilized in the results to emphasize the credibility and rigor of the data analysis. The reported descriptions and themes that emerged in the analysis were to create a code source for information. The coding data themes are found in **Table 1.**

Participant answer themes were assigned a specific highlighter color to be used in marking the written transcripts, as indicated in **Table 1**. If the participant had a head trauma prevention plan at the university, then the text would have a light green highlighter; compared to a participant who has a plan deferred to another divisional body given a yellow highlighter. ADs that go through head trauma training had a pink highlighter, and those who do not have training were assigned dark yellow. Expectations for the AD were assigned a red highlighter, with new developments incorporated by the institution as a dark green color. A grey highlighter designated participants' answers to their future wishes regarding head trauma, and their major issues or concerns were marked by light blue. If the AD had head trauma specifically mentioned in their job description, a teal highlighter was assigned. Based on the highlighted colors of the participant's data, results are described for qualitative research. Once the written transcript data

was coded into appropriate categories, common themes were formed based on the frequency of a color-coding during data analysis.

Table 1

Data Coding for Highlighting Written Transcripts

Data Information	Highlighter Color
Head Trauma Prevention Plan Present at Institution	Light Green
Head Trauma Prevention Plan Deferred to other Body	Yellow
AD undergoes Head Trauma Training	Pink
AD has no Head Trauma Training	Dark Yellow
Expectations of AD regarding Head Trauma	Red
New Developments or Resources by Institution for Head Trauma	Dark Green
Future Desires of AD for Head Trauma Prevention	Grey
Major Issues or Concerns by AD	Light Blue
Head Trauma Prevention specific to AD job description	Teal

Chapter Four: Results

4.1 Introduction

The purpose of this study was to investigate the perceived role of a collegiate AD in managing head trauma prevention. The study further considered the AD concerns regarding head trauma prevention and what to do in the future to mediate those concerns. This chapter will present the results of the data for the research questions and themes revealed based on data analysis.

4.2 Sample and Response Rate

The participants were head ADs competing at the NCAA Division I, II, or III levels representing the criterion sampling method used in this study (Suri, 2011). A total of 152 NCAA ADs were contacted for potential involvement in the study over three months. The potential participants were selected through a combination of criterion and stratified purposeful sampling. Once the criteria for participants (head ADs in NCAA) were sampled, participants were selected based on the institution's size, NCAA division level, experience as AD, and variety of athletic programs to exhibit variation and credibility in the sampling (Cohen & Crabtree, 2006; Suri, 2011). A total of 24 ADs responded, with 12 denying participation and 8 ADs agreeing to participation. Each of the eight ADs that agreed was selected for participation, and interviews secured. One AD requested and was granted removal from participation after setting up an interview time. In the end, there were a total of seven successful interviews. No follow-up interviews were conducted. Those who chose to participate may have done so as they were up to date on the topic or comfortable to speak on the sensitive topic of athlete safety.

Although there was a goal of 10 interviews for this study, there was consistent and repetitive data from all participants that no further coding was feasible (Guest et al., 2006). The

three themes were prevalent in all the participants' answers, with one outlier shown as a participant who correlated with the other participants but would occasionally go above and beyond in the preparation and prevention methods. Data saturation is felt to have been reached through data analysis based on no additional new information signifying that the data contained all the information to answer the research questions for this study (Guest et al., 2006; Lowe et al., 2018). The data obtained on the phenomenon of the AD's perceived role in head trauma prevention represented a consensus in all participants and data saturation reached, with no further need to expand or continue sample size (O'Reilly & Parker, 2013).

4.2.1 Demographic Background

The seven participants had a variety of education and backgrounds. The participants were selected due to their diverse backgrounds and experience at their respective Division level and institution. Of the seven participants, five were male, and two were female. Five of the seven participants had earned a master's degree in education as part of their professional experience. Most of the degrees were in education or similar fields. Sport Management is a growing degree and present in a few of the participants. Two of the participants had obtained a doctorate education to enhance their professional resume. Again, the degrees and specialties surrounded education to suit their position. Five of the participants were previously coaches, and four had extensive marketing backgrounds before their role as AD.

Table 2 outlines the education, experience in years as AD, gender, and NCAA division.

Table 2

Demographic Profile of Participants

Gender	Male: 5	Female: 2	
NCAA Division Level	Division I: 1	Division II: 1	Division III: 5

Education Level	Doctorate: 2	Masters: 5	
Experience as AD	0-5 Years: 5	20+ Years: 2	

4.3 Research Questions

In the interviews, there were a variety of questions posed to each participant. Each question was open-ended to allow the participant to expand on their answers. The answers were collected and coded through data analysis to be sorted into categories fitting the research questions. All of the questions were intended to answer the two main research questions. During the recruitment of participants, only 1 of the participants requested and was sent a copy of the interview question guideline.

4.3.1 Research Question 1

What is the perceived role of ADs in the management of head trauma prevention? A few questions were designed to answer this research question. Results indicate that two out of the seven (29%) ADs have the management of head trauma prevention specifically listed in their job description. Of the seven participants, only one undergoes annual head trauma training as the AD. The participant specified by saying, “the entire athletic administration and all the coaching staff take the concussion training…[the training] was extensive and very educational.” In contrast, all other participants have the coaching staff or athletic training staff complete required continuing education or training requirements. None of the participants voiced any requirement by the NCAA or institution to participate in head trauma prevention training. The single participant who participated in annual training indicated that all administrative staff, coaching staff, and athletic training staff went through training on head trauma prevention and concussions.

4.3.2 Research Question 2

What are the major concerns of ADs regarding head trauma prevention and what should happen in the future? Six out of the seven participants (86%) described their most significant concern regarding head trauma prevention to be the education of athletes and coaches. One AD specifically mentioned a concern with student-athletes who play soccer or other less popular contact sports. Although the participant recognizes football's focus on head trauma prevention, the need for education, emphasis, and training regarding soccer was noted as their biggest concern. To answer what should happen in the future regarding head trauma prevention, there were a variety of answers by the participants. One wanted AD education to be increased; two wanted education on safe techniques to tackle or other sports moves. A participant wanted the continued support of the NCAA to help lead the management of head trauma. At the same time, another participant desired to keep football safe with the football's changing physicality and culture. Two participants aspired for new technology in recognizing head trauma in the form of helmet technology to detect trauma-level strikes or artificial intelligence at practices and games to detect hits consistent with head trauma injuries leading to less error in human judgment.

4.4 Data Analysis

The methodology for this study was selected as qualitative research to examine the reported AD perceptions of their role in head trauma prevention (Cypress, 2019; Gammelgaard, 2017). Qualitative research allowed for exploration of the topic and utilization of phenomenological methodology based on this study's purpose (Crowther et al., 2017; Englander, 2012; Hoffding & Martiny, 2015; Quay, 2015). Data collection was through interviews based on a semi-structured interview guideline (Fusch & Ness, 2015).

Data analysis was completed using an open coding approach based on research on qualitative research methods (Maher et al., 2018; Vollstedt & Rezat, 2019). Coding was designed to categorize the data compiled from the written transcripts and form a framework of themes (Gibbs, 2007). The coding was completed by this study's author and based on physical-colored markers on printed interview transcripts (Guetterman et al., 2017). Repetitive data collected by analyzing the interview transcripts yielded common themes. Pertinent information to answer the main research questions was assigned codes and highlighter colors based on the themes shown in **Table 1**.

After analyzing and marking codes on each of the transcripts, themes were constructed based on the repetitive and frequent data collected. The repetitive descriptions and themes were consistent with the purpose of qualitative research using a phenomenological approach (Hoffding & Martiny, 2015). Three themes emerged: (a) Indirect mention of head trauma prevention in AD job description, (b) AD delegation to medical professionals, and (c) ADs want more research and education on head trauma prevention. Each of the themes was constructed due to the frequent marking and coding process. Once categories of frequent and repetitive information were highlighted, the three themes mentioned stood out as familiar narratives.

The first theme was created due to a majority of participants not having specific mention of head trauma prevention in the AD job description. Results indicated that the AD managed other athletic department positions that would directly relate to head trauma prevention. The second theme emerged after all of the participants voiced that the management of head trauma prevention should be done by those qualified for the task. Participants mentioned departments such as sports medicine and athletic training were trained and tasked with the responsibility of enforcement in head trauma prevention. The last theme was found through frequent commentary

by participants on the need for further head trauma research. Specific examples of how the AD suggested the future of head trauma prevention be implemented are shown in 4.4.3. Results of the data analysis and explanation of the themes are found in the next subpoints.

4.4.1 Indirect Head Trauma Prevention Job Description

Considering only two out of the seven interviewees had specific mention of head trauma prevention in the job description of AD, a theme presents itself of the AD remaining in an executive role that oversees departments that may directly manage the prevention. The AD appears to have full discretion on how their department handles the issue of head trauma prevention, with two of the participants having a specific job description mentioned. For example, all of the participants voiced an understanding of their written job description and responsibility for managing the health and safety of the student-athletes**.** Each understood the importance of player safety, and each had general statements of safety and executive role to oversee all sub-departments within the athletic department.

The departments managed by the AD may have a more direct job description of head trauma prevention, such as sports medicine or athletic training staff, and would report to the AD when appropriate. One participant on their job description reported, “It does fall within the general parameters of the department, but our sports director of sports medicine and sports performance [*sic*] ultimately does the daily monitoring and activities of that area.” Another participant stated their job description says to “supervise everything in athletics” while the athletic trainer’s job description, “clearly states that he/she is in charge of care of student-athletes.” The actual wording of head trauma prevention in the job description of ADs remained absent based on the data, aside from the two participants. One of the participants with specific mention of head trauma prevention had a department-wide emphasis on head trauma in place,

leading to the specific mention of head trauma. With the specific mention of head trauma prevention in their job description, the other AD also stated, “At the beginning of each season, all of the student-athletes meet with myself and the athletic trainer…to address what it means to possibly have a head trauma and what happens after that.” All of the participants described the executor and leadership role of AD in the job description to oversee such departments as sports medicine or athletic training, which have more direct descriptions of head trauma prevention. Similarly, regarding an actual head trauma prevention plan in place, this study found that nearly all participants defer their prevention plans.

Only one of the participants interviewed had a head trauma prevention plan specifically written by the university. All other participants have the head trauma prevention plan deferred to their division/conference plan or direct plan to the NCAA. Each of the participants mentioned the best practices recommended by the NCAA as the baseline foundation, with any additional plan set by the respective conference or division, except for a university-implemented head trauma prevention plan from a sole participant. The results were initially surprising, but not unknown, considering the relatively new concept of prevention of head trauma incidents. Head trauma prevention also differed from the protocols and procedures instituted by participants to handle head trauma incidents once they occur. It is also worthy to note that the difference between concussions and head trauma is often misunderstood and used interchangeably. The goal was to remain broad in order to include head trauma as any incident where there is a blow to the head, with no required corresponding diagnosis of a concussion. Perhaps another reason for the sole participant in creating a head trauma prevention plan was to defer liability or negligence to the NCAA or conference/division system, rather than to their institution. Nonetheless, each

participant was aware and remained in a suitable manner regarding head trauma prevention and their executive role to be involved, albeit not directly in their job description.

4.4.2 Delegation to Medical Professionals

A majority of the participants preferred to defer to medical professionals regarding implementing any concussion protocols or specific head trauma prevention plans. All of the participants voiced that the actual management of head trauma prevention should be handled by the medical professionals, including the team physicians, sports medicine staff, and athletic training staff. Two ADs specifically mentioned that they trust the medical professionals in their staff to manage head trauma prevention so that they can continue administrative duties, feeling that the professionals should be the ones taking care of such a task. While the first theme emphasized the role of the AD in managing all aspects of the athletic department, none would oversee the sports medicine or player safety aspect directly. As part of the AD position, they would hire medical professionals, team physician consulting, athletic trainers, and other staff directly involved with player safety. When hiring athletic trainers, one participant mentioned an extensive interview process:

> We make sure we go through a thorough vetting of those individuals where they have been previously and we've looked at the performance record of that institution with regard to how they have treated medical issues and precautions area issues in the past. We use that as a benchmark as we go through our interview process.

Each AD ensured that the employee would have suitable experience and education, with any continuing education or certifications required by staff appropriately followed. One participant in regard to other staff managing head trauma prevention specifically mentioned, "I don't want my coaches *managing* [emphasis added] it… that is the athletic trainer's job." The participants' goal

was to defer any implementation to the medical professionals and those with the education and training to be involved with head trauma prevention. The AD would serve as a director while allowing head trauma prevention to be handled by the professionals.

Each of the participants mentioned that all sports either have a designated team physician on the field with them or access to a physician for any head trauma incidents consistent with NCAA legislation requiring access to a physician to consult with head trauma incidents (Parson, 2014). One of the participants included occasional independent medical observers who provided additional expertise to the existing coaches and medical staff. The purpose of the independent medical observer was to help critique and provide observation, ensuring head trauma incidents are recognized to the best of the staff's ability.

As mentioned in the first theme of job descriptions, the ADs would also defer head trauma prevention plans to the NCAA's medical professionals or their division/conference. Even the sole participant who had their own head trauma prevention plan consulted with the sports medicine and athletic training staff professionals during the creation process. All of the participants were aware and acknowledged protocols set forth of any head trauma protocols. Each participant assured that the protocols they used followed NCAA, division, and training staff recommendations and met all requirements to keep student-athletes safe. Every participant stated that they would be notified of any head trauma incidents, with varying degrees of involvement after being notified. One participant mentioned the involvement to include a return-to-learn procedure of notifying the student-athlete's professors to ensure educational stability. If not direct involvement of the AD to institution professors, then the athletic training staff would manage the assistance and care provided to maintain the education aspect of the student-athlete

experience. The AD remained the executive position to ensure all policies are being followed, but the medical professionals will do the actual implementation.

4.4.3 Further Education and Research on Head Trauma

The last theme presented in the data analysis was the continued research for new developments to assist in implementing policies. Each of the participants was asked about any developments or new research that the university was implementing to support head trauma prevention. Two of the participants mentioned buying new helmets that have been studied and suggested to reduce the likelihood of sustaining a concussion or severe head injury. Each of the instances was done with supervision and corresponding accordance with any NCAA policies. One of the participants mentioned specific results from the first year of the helmet initiation to include a team physician who commented that the players "were cleared to play much quicker, the severity of the concussion appeared to be on a lower level than what was expected." A separate participant mentioned that the turf field that hosts several sports and events undergoes concussion testing to ensure a safe amount of rubber pellets for the turf and provide feedback on the condition suitable for contests. Two participants suggested the use of artificial intelligence in the future to possibly detect head trauma incidents, such as "something inside a football helmet that could register the blow." According to one participant's goal, artificial intelligence could continuously "monitor activities during practices and games for suspected head trauma." Additional participants mentioned investigating and continuing education on tackle techniques or proven safe ways to perform high-risk moves in sports. Although in the infancy of research, continuing education and implementation of any new head trauma prevention developments were taking place in this study's subjects.

The most-reported concern about head trauma prevention by all but one of the participants was the specific concern of the athletes and coaches' education. To clarify, the education concern was not academic education, but rather knowledge on head trauma prevention for the athletes and coaches. The education would be in addition to the annual education process required by the NCAA detailing student-athlete's education on the signs and symptoms of concussions (Parsons, 2014). The concern resided in limited information on prevention, and until recently, little training or education on the dangers of head trauma injuries. Underreporting by athletes was mentioned by participants as a concern about the lack of education provided or the false notion athletes have that they will be punished if they report their symptoms. Emphasizing the importance of education, a participant commented, "the best practice is element [*sic*] of staying concurrent [*sic*]and on-top of the most recent education and technical knowledge that is out there." While the overwhelming preference by participants was to have medical professionals remain in charge of implementation, ADs still desired for further education to coaches. The AD's goal was to have the coaches understand the signs and symptoms of head trauma incidents, as well as prevention techniques to assist in their coaching plan to protect student-athletes.

4.5 Summary

In this study, the research questions were defined by the interview questions listed in the interview guideline. Each participant answered the research questions based on the set of questions asked. The themes mentioned were done through a coding approach creating meaning and understanding of the data compiled through the interviews. The open coding approach yielded common themes representative of the participant's perceived role regarding head trauma prevention. The coding and thematic analysis were based on the highlighted and repetitive themes to allow the participants' views to guide the construction of the introduced themes. The

subsequent chapter will discuss the findings in-depth and their relation to the research questions. Evaluation for further research and recommendations will be considered.

Chapter Five: Discussion

5.1 Summary of Study

The executive position of the AD is found universally among collegiate athletics throughout the NCAA. Each AD has a variety of roles and responsibilities, depending on the institution's needs and requirements. Head trauma prevention prevails as a prominent concern among student-athletes, fans, colleges and universities, stakeholders, and the general public. Currently, there is no research on the role of ADs in managing head trauma prevention at the collegiate level. While athletic training staff and coaches have requirements or findings on their role in head trauma prevention (Baugh et al., 2015; Register-Mihalik et al., 2019), the administrative position of the AD regarding the management of head trauma prevention remains unseen.

As other sports at the amateur and professional levels continue to address the concern of head trauma prevention among athletes, a discussion on the role of collegiate ADs in managing head trauma prevention is needed. Once a standard of practice is established or understood, ADs can better serve the student-athletes' well-being and safety at each institution. The AD could then adapt the policies based on the needs of the athletes and create new practices on protecting student-athletes. The influential state of college athletics in America could lead to better practices among administration at any level.

5.2 Discussion of Findings

Two research questions were formed to direct the study and meet the purpose of this study. Each of the research questions was answered and discussed below.

5.2.1 Question 1: Job Description of Athletic Director

What is the role of ADs in the management of head trauma prevention? Two of the seven interviewed subjects answered that the management of head trauma prevention is part of their job description. Both participants described that this is specific to their role as AD in that they oversee the sports medicine department or athletic training staff. While they may not have complete management of head trauma prevention as the AD, they have student-athlete well-being listed as their job description to include head trauma prevention. To answer the research question, the management of head trauma prevention had to be specifically mentioned in the job description of the AD to count toward the data analysis. The five other participants did not have head trauma prevention listed in their job descriptions specifically. Still, they remained in the executive role of the athletic department, including overseeing the sports medicine or athletic training staff. Although they are an administrative leader and oversee departments with job descriptions related to head trauma prevention, the management of head trauma prevention was not explicitly mentioned in the AD job description, emerging as the first theme in the study.

Only one of the participants reported completing a form of concussion or head trauma training as part of their position. Some of the participants were former coaches or officials in which they were familiar with concussion symptoms but did not go through any training as an AD except for the one subject. All other participants oversee the various departments of the athletic program, including athletic training, but do not have head trauma prevention specifically listed in their job description. The sole participant that goes through training does so willingly and has all administrative staff and coaching staff complete the same training yearly. Each participant indicated no requirement to their knowledge for the AD to go through training on

head trauma or head trauma prevention, as the topic is deferred to the sports medicine or athletic training staff job description.

Every participant felt that medical professionals should be the ones that implemented the head trauma protocols. Each institution interviewed has a set of head trauma protocols that are reviewed and approved by the AD but managed and enforced by the athletic training or sports medicine staff. The AD ensured that those hired in athletic training or sports medicine positions go through proper training and maintain current certifications to practice. When discussing specific head trauma protocols, a universally understood policy was for the athletic training staff to oversee the diagnosis of any head trauma injury and make decisions regarding return to play for the competition. The athletic training staff would also decide any rehabilitation or therapy required before evaluation by a team physician on the field at the time of the incident or other appropriate time. ADs unanimously answered that they are made aware of head trauma incidents, ensuring that all appropriate staff is informed while allowing the medical professionals to take the student-athlete through proper protocols. Most of the participants were able to discuss a general return-to-play process, but they would defer any specifics of protocols or policies to the athletic training staff.

To investigate and learn more about the role of ADs in managing head trauma prevention, only one participant had created a head trauma prevention plan at the university, rather than the other subjects who had deferred the plan to another organization. ADs interviewed understood the importance of head trauma prevention, and each had a plan, but only one had one created for the university, while the rest had their plans deferred. The sole participant with a created head trauma prevention plan had done so after the institution found it necessary based on their needs. Every participant had protocols, procedures, and plans in place

for when head trauma occurs. Still, the concept of prevention specifically researched in this study was not found to be consistent among the sample. All participants agreed that NCAA best practices are the most definitive methodology and consider them to be required policy. For a head trauma prevention plan to be successful, one participant said the plan should be "one that protects the student-athletes…have the student-athletes health interests as a top priority." The ADs ensured that the head trauma prevention policies were present and compliant, which would remain part of their job description in an executive position. The findings indicated that, although all of the ADs were involved in all aspects of the process of head trauma prevention, most elected to defer implementation and sequence to the departments charged with more direct involvement. The sole participant with their prevention plan and proactive involvement provides an example of an AD going beyond the position's baseline requirements while remaining within their scope of their position.

5.2.2 Question 2: Major Concern & Future Outlook

What are the major concerns of ADs regarding head trauma prevention and what should happen in the future? Consistent with the answers throughout the interviews, all but one participant reported their most significant concern as an AD regarding head trauma prevention is the education of athletes and coaches. The education of athletes included both peer and self-reporting of concussions or head trauma symptoms. The AD's concern was that athletes are scared to report due to potential games missed or feeling that they will be in trouble for their head injury. Peer education includes fellow teammates reporting when they notice someone was hit abnormally hard or is exhibiting symptoms consistent with head trauma as reported by each institution's concussion protocols, and to have athlete education at the beginning of each year. Coaching education was also a concern for ADs. While some coaches did not want the coach to

manage head trauma prevention, all still want the coach to be educated on head trauma prevention and be able to spot accurately if the athletic training staff, teammates, officials, or other staff are unable to view the incident. Education served as a tool in head trauma prevention and appeared to be a significant concern for ADs when managing head trauma prevention for their staff to be equipped with the best information to protect student-athletes.

There were a variety of answers on what an AD would like to see in the future regarding head trauma prevention. Education increase remained consistent with the primary concern being a lack of education. The education increase was reported by the standpoint of the AD, safe techniques taught by the coaches, and faculty education. Many consider college football to be a well-known platform that is desired by one participant to remain current, considering the growing physicality of the sport. The NCAA has implemented several policies and best practices regarding head trauma prevention (Baugh et al., 2015), and another participant specifically requested continuing support. Contemplating our time's technological advances, two participants want to see technology used to detect head trauma. One requested technology in the form of artificial intelligence that cameras could be used on the field during a practice or game to detect play or hits that would be consistent with a head trauma injury, then be reported to a designated official. The second participant recommended technology implanted in the helmets to detect a significant blow to the head consistent with a head trauma injury. The purpose of implementing advanced technology was to take the human judgment aspect of diagnosis or reporting, which remained the biggest concern for many participants.

5.3 Recommendations

The purpose of the study was to investigate and learn more about the role of an AD in managing head trauma prevention. The concept of head trauma is relatively new in the last

couple of decades, and prevention is less studied. Current research indicates that athletic training staff, coaches, or other officials have responsibilities within head trauma prevention to protect student-athletes. However, there is no research on the role of the AD. Given the limited research on ADs, an investigation was needed, and continuing education was proposed. Due to the exhausting and demanding schedules of a collegiate AD, finding interview subjects can be difficult. Division II or III ADs were more prone to respond due to their size and responsibilities when compared to a Division I national university. Continuing research to be conducted at the Division I level would be interesting to gain an expanded scope of the AD perceived role.

Due to growing public concern and lawsuits on potential negligence of institutions regarding head trauma prevention, there was potential for the ADs to be hesitant in answering questions about head trauma prevention. Since head trauma prevention can be sensitive, probing in interview questions was limited. Probing questions existed to clarify answers provided by the ADs while recognizing occasional hesitancy by the ADs in providing specifics on their role in head trauma prevention could be out of concern of any negligence or breach of duty.

Although this study was qualitative and used interviews as the source of data, to obtain a larger sample size, a survey or poll could be considered to learn the basics of an AD's responsibilities may or may not have in a quantitative study. Future research on this topic must remain investigative so that an AD will not feel that their practices are detrimental or illegal regarding head trauma prevention. The purpose should remain consistent with learning more about the position rather than accusatory. The topic of head trauma is evolving, and continued research will remain. By specifically learning about prevention, the research can be expanded to protect student-athletes rather than simply treat or diagnose.

5.4 Conclusion

The data analyzed from the interviews of collegiate ADs provide new insight into the roles and responsibilities of ADs. With the growing concern of student-athlete health regarding head trauma prevention, the AD's role is vital to investigate. Many of the ADs had similar responsibilities and thoughts on head trauma prevention.

The investigation found that few ADs have the management of head trauma prevention as part of their job description. Although few have head trauma prevention specifically mentioned, most have a general statement on the responsibility of the AD to oversee all aspects of the athletic department, which will include the athletic training staff. Every AD understands the importance of head trauma prevention to be handled by medical professionals and to utilize the sports medicine or athletic training staff to implement the concussion protocols and be responsible for their certifications or continuing education. In some cases, ADs did not want coaches or other staff to manage head trauma prevention, as they felt it should be isolated to those trained.

All but one AD participates in head trauma prevention training as part of their curriculum, and only one has a head trauma prevention plan at their institution. The findings were enlightening that most institutions apply a head trauma prevention plan, even if from the participating conference or division. Despite the difference in plans or training, each feels that any best practices mentioned by the NCAA are essential to be executed, with AD flexibility given by the NCAA to supplement and adjust specific policies based on their institution's needs. Education served as the biggest concern for the ADs with a wide variety of considerations on the future of head trauma prevention.

Overall, this research is investigatory and enlightening on the role of collegiate ADs in head trauma prevention. The executive position of ADs within a collegiate athletic department provides an opportunity to lead in the management of head trauma prevention. The research supports the importance of the topic among ADs while also indicating that each is respectful and dependent on medical professionals to evaluate and operate any protocols or policies approved by the AD.

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Appendix A

Liberty University IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

May 22, 2019

Clay Roe
IRB Approval 3800.052219: Athletic Director Role in Head Trauma Prevention

Dear Clay Roe,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)

Thank you for your cooperation with the IRB, and we wish you well with your research project. Sincerely,

G. Michele Baker, MA, CIP

Administrative Chair of Institutional Research

Research Ethics Office

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Appendix B

Email Recruitment for Subjects

March 19, 2019

[Recipient]
[Title]
[Company]
[Address 1]
[Address 2]
[Address 3]

Dear :

As a graduate student at Liberty University, I am conducting research to investigate the role of athletic director in the prevention of head-trauma. I am writing to invite you to participate in my study. With the growing concern among sports fans and participants of concussions and post-concussion disorders, my study is designed to provide professional insight by NCAA athletic directors in an effort to create a universal method of management at the leadership level.

If you are willing to participate, you will be asked to schedule a time to meet in person or by phone for an interview. The interview will involve gathering professional information on your position and how an athletic director manages head-trauma risk. The interview should take between 15-20 minutes. If needed for clarification, a follow-up phone interview will take no more than 10 minutes. Your name and professional position information will be requested as part of your participation, but the information will remain confidential in the event of publication.

To participate, please contact me by email at , and we will set up an interview time convenient for both of us. A consent form is attached to this email, and it provides additional information about my study. I will also be attaching a copy of the complete approval by the Liberty University IRB. If you choose to participate, you will need to sign the form and return it when we meet for the interview if we meet in person or by email if the interview will be conducted by phone.

Thank you again for your consideration to participate in this important study on head-trauma prevention as we strive to protect student-athletes. Feel free to contact me with any questions you may have prior to consent to participate in the study.

Sincerely,

Clay Roe
Graduate Student Liberty University
Master of Science in Sport Management: Administration
Department of Sport, Event, and Tourism Management

Appendix C:

Participant Consent Form

CONSENT FORM

Athletic Director Role in Head Trauma Prevention

Clay Roe

Liberty University

Department of Sport, Event, and Tourism Management

You are invited to participate in a research study of the Athletic Director role at the collegiate level when addressing the concern of head trauma among student-athletes. You were selected as a possible participant because of your role of Athletic Director at the collegiate level. This form contains background information on the study and procedures involved with participation. Please review this form and ask any questions you may have before signing to agree to participate in the study.

Clay Roe, a graduate student in the Department of Sport, Event, and Tourism Management at Liberty University, is conducting this study.

Background Information: The Athletic Director stands at the pinnacle of sports management at the collegiate level and has the subsequent direction of the sports programs at his or her represented university. Due to the influential position of the Athletic Director, there must be an emphasis on how the position impacts the issue of head trauma. The purpose of this study is to investigate the role of athletic director in managing head trauma prevention of the student-athlete.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Schedule a time convenient for both parties to be interviewed by phone or in person. The interview is estimated to be thirty minutes to one hour including questions and discussion on current protocols or methodology on prevention and risk management of concussions. With your consent, the conversation will be recorded and transcribed for coding and analysis.
2. Any follow-up by either party for results and additional questions may be requested and issued by email or phone communication.

Risks: The risks involved in this study are minimal. The main potential risk is a breach of confidentiality which could expose subjects to possible legal or employment risks depending on the nature of their answers.

Benefits:

There are no direct benefits to the participant. The study will benefit society with knowledge of how head trauma risk is managed at the athletic director level.

Compensation: There is no compensation for participating in this study.

Confidentiality: In order to minimize the risk of a breach of confidentiality, I will use pseudonyms to address each participant. The list of pseudonyms will be kept in a password-locked box. During the interview, the subject will be voice-recorded, which the recorder will be kept in a password-locked box. All of the written transcripts of the interviews will be on a password-locked computer and each transcript will be screened to not disclose any information that could be used to identify the participant. Before each interview, the participant will be advised to refrain from mentioning any identifying information such as the name of the

university or participants during the interview. I will conduct the interviews in a location where others will not easily overhear the conversation. Data will be stored on a password locked computer and may be used in future presentations. Per federal regulations, data must be retained for three years upon completion of the study. After three years, all electronic records will be deleted.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Clay Roe. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at. You may also contact the researcher's faculty chair, Kevin Heisey, at .

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio-record me as part of my participation in this study.

Signature of Participant Date

Signature of Investigator Date

Appendix D:

Interview Guideline

Interview Question Guideline

1. Tell me about your role and responsibilities as the athletic director.
2. Is the student-athlete health/well-being/injury prevention/head trauma management part of your job description? What is your role in addressing head trauma management?
    a. Part of the coaching job description?
    b. Part of any other athletic department staff job description?
3. Can you walk me through the process, as you understand it, from a head injury/potential injury to the return-to-action?
    a. To the best of your understanding, what happens when a student-athlete receives a blow to the head during a game?
    b. What happens when a student-athlete receives a blow to the head during practice?
    c. To the best of your understanding, what happens when a student-athlete receives a blow to the head during an away competition?
    d. Possible mention of return-to-learn.
4. What is your understanding of any protocols in place to make sure blows to the head are detected?
5. Describe any school officials or staff that are involved with the management of head-trauma prevention (if not mentioned in #2).
6. Describe your expectations of a coach, trainer, or school physician in managing head-trauma prevention (i.e. education or certifications).
7. What are your major issues and concerns as an AD regarding head trauma prevention?
8. Does your college or university have a head-trauma prevention plan in place or deferred to the NCAA/conference plan?
9. How do evaluate the success of a head-trauma prevention plan?
10. Are there any new developments in head trauma, new protocols, or resources devoted to the head-trauma prevention at your college/university?
11. Describe what you would like to see in the future regarding head trauma prevention.