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ADMINISTRATIVE BARRIERS TO COMPLIANCE WITH THE 2010 NCAA POLICY ON
CONCUSSION MANAGEMENT

by

Tyler Norman

A dissertation submitted to the Graduate College
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
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Doctoral Committee:

Dr. Nancy Mansberger, Ed.D, Chair
Dr. James Lewis, Ph.D.
Dr. Ronald Kramer, Ph.D.
Dr. Dave Louis, Ph.D.

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Tyler Norman

ADMINISTRATIVE BARRIERS TO COMPLIANCE WITH THE 2010 NCAA POLICY ON CONCUSSION MANAGEMENT

Tyler Norman, Ph.D.

Western Michigan University, 2018

Concussions and concussion management in sport have become a polarizing public health issue. The best concussion assessment practices and “return-to-play” guidelines have been debated in both the scientific arena and in the media. At risk is the health of the athletes when proper diagnosis and treatment are not accurate for this potentially devastating injury.

Recent research estimates that approximately 1.6 – 3.8 million sport-related concussions occur each year in the United States (Brady, 2011), which can lead to chronic disease, swelling of the brain, cognitive impairment, chronic headaches, mood disorders, depression, blurred vision, double vision, cranial hemorrhaging and death if improperly diagnosed and/or treated. In 2010, the NCAA installed a policy on how concussions should be managed. This was the first time the concussion issue had been addressed by the governing body for collegiate athletics. Of the few studies that have been published that focus on compliance with the NCAA concussion management policy, significant variability has been shown to exist from one institution to another. Some institutions have been found to be in complete compliance, others are missing key components of the NCAA protocol, and surprisingly, some institutions lack a concussion management plan altogether (Baugh, 2016).

A general qualitative design is used to interview ten senior compliance officers and one compliance commissioner for institutions of higher education that are members of the NCAA to

gain valuable insight to barriers that exist which prevent institutions from full compliance with the 2010 NCAA policy on concussion management. The inclusionary criteria for participation included only that the subject be a senior compliance officer employed by a division one institution, and that they be responsible for compliance with NCAA policies.

The thematic analysis reveals that compliance officers are most concerned with compliance in the areas of eligibility, financial aid, and recruiting. They use instruments to measure the degree to which their institutions are in compliance and are aware of specific consequences that can be imposed if their institutions are found to be in violation in those particular areas. Conversely, they do not measure the degree to which their institutions comply with the concussion policy, and are not aware of consequences that could be imposed if they are found to be in violation of the concussion policy, because there are not any consequences for non-compliance.

This study offers suggestive evidence that division 1 compliance officers, and subsequently the institutions that they represent, are consequence-driven in the context of compliance with NCAA policies. Additionally, this study supports the argument that a lack of specific consequences published by the NCAA for violation of the 2010 concussion policy is a major barrier to compliance with that particular policy. Finally, assignment of who, within an institution of higher education, should be blamed for violating the NCAA concussion policy is a barrier to consequences being established, and subsequently, to compliance with the policy. As of now, the 2010 NCAA policy on concussion management is merely a recommendation.

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CHAPTER I

INTRODUCTION AND BACKGROUND

Concussions and concussion management in sport have become a polarizing public health issue. The best concussion assessment practices and “return-to-play” guidelines have been debated in both the scientific arena and in the media. Medical professionals and scholars have conducted research that clarifies the risks associated with concussion and subsequently, the importance of concussion management policy. The growing body of research and awareness of the risks of concussions have resulted in a national effort to educate athletes, parents, athletic trainers, and coaches in the best concussion management practices (Esquivel, 2013). At risk is the health of the athletes when proper diagnosis and treatment are not accurate for this potentially devastating injury. While proper diagnosis and treatment of concussion are argued in the medical community, the definition of concussion is not. A concussion is generally defined as a "traumatically induced alteration in mental status that may or may not involve loss of consciousness" or "a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces that may or may not involve loss of consciousness" (Brady, 2011). A simplified definition is provided by Cobb (2004), which states, “Concussion is a form of head injury that occurs immediately after a blunt force strikes the head causing the brain to move within the confines of the skull” (p.262).

Recent research estimates that approximately 1.6 – 3.8 million sport-related concussions occur each year in the United States (Brady, 2011), which can lead to chronic disease, swelling of the brain, cognitive impairment, chronic headaches, mood disorders, depression, blurred vision, double vision, cranial hemorrhaging, and death if improperly diagnosed and/or treated,

which validates the increased importance placed on this issue by the medical and media community. Until recently, concussion management protocol in sport has been a somewhat vague and subjective practice. There are many internal and external factors that have been shown to prevent the proper treatment and care provided to concussed athletes, the results of which can include a variety of serious health implications including, but not limited to, brain damage and death. Concussion management in sport is now a rapidly changing practice. Recent legislation has mandated concussion management policy at the high school level and resulted in self-imposed reform in the National Football League, a professional football organization. In 2010, the National College Athletic Association (NCAA) installed a policy on how concussions should be managed. This was the first time the NCAA had addressed the concussion issue from a policy standpoint, as they had previously deferred to the National Athletic Trainers Association (NATA), and its protocol, on concussion management.

The NCAA protocol implemented in 2010 outlined some of the basic components that should be included in the schools' concussion management plans. The basic components included a requirement that any athlete who shows signs, symptoms, or behavior consistent with a concussion be removed from activity and evaluated by a health care professional (Baugh, 2014). It also required that if the athlete was diagnosed with a concussion that they not be allowed to resume sports activity until they had received medical clearance from the team physician or another designated health care professional. Students must also complete an educational seminar each year to learn about the signs and symptoms of concussions and understand their responsibility to report symptoms to the medical staff. Studies have shown that there was, and still is, a significant lack of consistency in implementation of and compliance with the NCAA protocol, particularly in the educational aspects of the protocol (Baugh, 2014).

Most concussion management plans in college athletics emphasize the diagnosis and treatment of concussions, not education and prevention. Although the NCAA has taken a step in the right direction by implementing a concussion management protocol, there is very little research investigating the efficacy of the protocol and the continuity of compliance. Of the few studies that have been published that focus on collegiate-level concussion management, significant variability has been shown to exist from one institution to another. Some institutions have been found to be in complete compliance, others are missing key components of the NCAA protocol, and surprisingly, some institutions lack a concussion management plan altogether (Baugh, 2016). All the reviewed studies concluded by recommending that more research is needed to identify barriers to a higher frequency and quality of concussion management compliance. The NCAA protocol is based on a large body of scientific evidence. Examples include evidence of the cumulative effects associated with recurrent concussions in a study published by Guskiewicz (2003), the reliability of baseline testing in a study published by Schatz (2013), and barriers to concussive symptom reporting in a study published by Christman (2013). Without proper implementation and execution of the protocol, the student athlete is at risk of sub-standard diagnosis and treatment of concussion. It is of paramount importance for institutions of higher learning to place a high priority on the health and well-being of their student athletes. After all, it is the responsibility of the institution to expand the mind, not damage it. With inconsistent use of concussion management guidelines, student athletes are placed at risk of the serious effects of sport-related concussions, which include depression, cognitive impairment, and death. If policies on concussion management are written and installed with the latest available research in consideration, the safety of the student athletes will be

maximized. The beneficiaries of such a practice would include the institutions of higher education, the NCAA, and of course, the athletes themselves.

Major Issues Surrounding Concussion Management

The risks of concussion range from mild to severe. Diagnosis and treatment of concussion is complex because unlike most sport-related injuries, it cannot be seen with the naked eye or even with a CAT scan or MRI (Institute of Health, 2013). The most devastating variety of concussions have been shown to occur from either multiple concussions, or an athlete returning to play before an existing concussion has completely healed. In these instances, the risk of catastrophic injury is greatly increased. Second-impact syndrome (SIS), cranial hemorrhaging, cranial swelling, brain damage, and death are the immediate risks for an athlete who has been improperly diagnosed or treated and who returns to play prematurely. Long-term risks of athletes who have sustained multiple concussions include diminished cognitive function, Chronic Traumatic Encephalopathy (CTE), Alzheimer's disease (AD), and ALS (Lou Gehrig's disease) (Randolph, 2009).

The discovery of these health risks has led many medical professionals and the National Athletic Trainers Association (NATA) to evaluate concussion management and to install more vigilant protocols, the most significant of which is recommending baseline testing and clearance from a medical professional independent of the team or organization. The practice of baseline testing has been shown to be the most effective tool used by medical practitioners in determining if an athlete has fully recovered from a concussion (Resch, 2013). By requiring the clearance of an independent medical professional trained in concussion treatment, many internal and external factors that could influence the timetable of an athlete returning to play are eliminated.

The NATA and the Institute of Health (IOH) guidelines are regarded as the “gold standard” of concussion management protocol. These guidelines are the basis of the Zachary Lystedt Law, which legislates concussion management protocol in fifty states (Chrisman, 2013), and the newly reformed NFL protocol on concussion management. The National Collegiate Athletic Association (NCAA) is the governing body that regulates policy in college athletics and, prior to 2010, recommended that colleges and universities adhere to the NATA guidelines for concussion management. Studies have shown, however, that these guidelines are not fully utilized in as many as 70% of NCAA schools (Chinn, 2013).

The Long- and Short-Term Risks of Concussion

The risks of concussion have become the central issue for medical practitioners, researchers, higher education and high school administrators, coaches, athletic trainers, parents, and athletes when considering concussion management protocol. As previously mentioned, substandard diagnosis and treatment can lead to a variety of devastating health risks. The severity of these risks have been researched, identified, and unlike ever before in history, communicated to the public with greater clarity and urgency, which has resulted in the beginnings of concussion management reform as exemplified in the aforementioned legislation being installed at the high school and professional levels.

Second-impact syndrome and cranial swelling. These devastating injuries can occur when an athlete suffers a head injury or concussion before the brain has completely recovered from a prior head injury or concussion (Cobb, 2004). When the brain is traumatized while currently concussed, the result is severe cranial swelling that is often fatal. If death does not occur, the victim will likely be severely disabled as in the 2006 Zachary Lystedt case, which inspired the Zachary Lystedt Law discussed later in this report. The pathophysiology of second-

impact syndrome is controversial, but it is generally believed that when the brain suffers an acute trauma while concussed, the brain loses its ability to auto-regulate the blood vessels, which results in over-dilation, causing a fatal degree of cranial swelling (Thomas, 2011). An analysis of the U.S. National Registry of Sudden Death in Young Athletes revealed that over a thirty-year period (1980-2009), 261 sport-related deaths resulted from trauma-related injuries involving the head and/or neck (Thomas, 2011). The tragedy of these deaths is that most of them would have likely been prevented with correct diagnosis and treatment. Furthermore, in a recent study that assessed barriers in concussive symptom reporting, it was reported that 66% of the participants would not report signs of concussion to their coach or athletic trainer and would continue playing. The other 33% indicated that they would sit out for five to ten minutes before returning to the field of play (Chrisman, 2013). These numbers are disconcertingly high when considering how many concussions go unreported, leaving these athletes vulnerable to the immediate risks of second-impact syndrome, cranial swelling, and death, as well as long-term chronic disease.

Chronic Traumatic Encephalopathy (CTE), Alzheimer's disease (AD), and ALS (Lou Gehrig's disease). Recently published research has positively linked exposure to repetitive head trauma from contact sports to a number of debilitating and terminal chronic diseases. The publication of this research has placed a spotlight on the dangers of contact sports and the standards of concussion management employed by sport administrators at every level in sports such as soccer, ice hockey, lacrosse, rugby, and most of all, American football. Adding to the public awareness and scrutiny are the recent suicides of two well-known former NFL players Junior Seau and Dave Duerson. Seau and Duerson had previously been treated for symptoms associated with Chronic Traumatic Encephalopathy (CTE), the diagnosis of which was confirmed post-mortem.

CTE is defined as a neurodegenerative disease that presents early onset symptoms such as chronic headaches, depression, memory lapses, anxiety, apathy, and severe mood swings (Randolph, 2013). In earlier years it was believed to only occur in boxers and was referred to as “punch-drunk” syndrome. The pathophysiology of CTE is not fully understood by researchers but is believed to result from a buildup of protein or scar tissue in the brain (Sports Legacy Institute, 2013). Since the clinical discovery of CTE, there have been more than fifty positive diagnoses in post-mortem autopsies performed on former NFL players, and with the new knowledge that is available, more than ten living retired NFL players have been diagnosed with CTE.

One form of Lou Gehrig’s disease (ALS) and Alzheimer’s disease (AD) have also been linked to repeated head trauma over time. The results of a study examining the frequency of neurodegenerative diseases in retired NFL players revealed that subjects had triple the risk of death caused by diseases that damage the brain cells, and four times the risk of dying from ALS or AD (Lehman, 2012).

Diminished cognitive function. It has been shown that cognitive deficiencies are another risk factor for concussion that has had recent literature contributing to the public health concern. Several publications have positively linked concussion to cognitive impairment and learning disabilities. One study that examined the prevalence of learning disabilities in a sample of college football players concluded that 19% of athletes who suffered multiple concussions had a diagnosed learning disability, compared to a frequency of 11% in the control (Collins, 1999). The results of this study raise ethical questions regarding the mission of institutions of higher education. Do they exist to expand the mind, or damage it? Another study examined the prevalence of cognitive impairment in retired NFL players, averaging 64 years of age, with a

history of repeated head trauma. The results showed that more than 35% of the sample suffered from cognitive impairment, compared to less than five percent frequency in the control (Randolph, 2013).

The growing body of literature in the area of concussion and associated risks has validated the growing public concern. While the practice of medicine evolves and advances, concussion diagnosis and treatment have taken a back seat to other areas of medicine that effect larger sectors of our population, until now. The severity of concussion injuries has been brought to the forefront by the new research, which opens new areas of discussion and asks new questions. Understanding the mechanisms that cause concussion and commitment to the best concussion management policy is the best defense towards preventing concussion and the subsequent health risks that follow. In the next sections I will examine the issues that are paramount to concussion management policy such as baseline testing, return-to-play guidelines, and current practices at the high school, collegiate, and professional levels.

Issues in Concussion Management Policy

Baseline testing. Baseline testing is thought to be a crucial component of an effective concussion management plan. Many variations of baseline testing are employed by athletic trainers and medical staff in the diagnosis and determination of return-to-play status of an athlete that has been concussed or is believed to be concussed. Collection of normative neuropsychological data in addition to visual motor speed, reaction time, and verbal and visual reaction time are the principle areas of evaluation in baseline testing (Resch, 2013). The testing is administered pre-season or off-season, which ensures that the data attained is that of a non-concussed athlete. When a player is suspected to be concussed, they re-take the test, which then provides crucial information to the evaluator. Because the evaluator cannot see the concussion,

discernment of its existence is subjective. The baseline test provides objective data that helps determine if the athlete has fully recovered from the injury (McCrea, 1997). Although it has been shown that baseline testing has had questionable reliability in some applications, it is still the best tool available to evaluators in assessing concussed athletes and preventing additional concussions or, worse, second-impact syndrome (Johnson, 2012). It is important to remember that while baseline testing is a valuable tool in concussion management, it is only one component of a complete concussion management plan.

Return-to-play guidelines (RTPs). Return-to-play guidelines refers to the process a sports teams medical staff employs to determine if a player is ready to continue practicing and playing in competitions after suffering an injury. The guidelines have significant variations based on the sport, the level of competition, and the nature of the injury. In regards to concussion management, return-to-play guidelines have been scrutinized by both the medical and media communities in a very public manner. It is perhaps the most polarizing issue faced by sports teams from the aspect of concussion management. The quality and effectiveness of a team's RTP policy has a significant impact on proper diagnosis and treatment of concussion and concussion-related injuries. It is the most effective tool in the prevention of catastrophic injury such as CTE and SIS.

Current practices at the high school, collegiate, and professional levels. Currently, the Zachary Lystedt Law governs RTPs at the high school level after being legislatively installed in 2009. It was named for a junior high school football player who suffered a concussion after a severe blow to the head, returned to the game, and was left severely disabled after suffering second-impact syndrome. The Lystedt Law requires that athletes and parents be educated in the risks associated with concussion, that a player suspected of concussion be immediately removed

from play, and that an athlete must receive written clearance from a medical professional trained in concussion management before the athlete can return to play (Johnson, 2012). Since the law was passed in Washington, the bill has served as a template for all fifty states to pass similar legislation.

After years of denying any wrongdoing, the NFL agreed to pay more than \$765 million in damages in August of 2013 to more than eighteen thousand current and former players for concussion related brain injuries. The NFL has since installed stricter RTP guidelines and created programs to increase awareness at the youth level (nfl.com).

The NCAA essentially modeled its policy after the NATA model, which recommends that teams employ RTP guidelines. The NATA position on concussion management states that a complete concussion management plan includes neuroimaging or brain computed imaging (CT), balance assessment, neuropsychological assessment (baseline testing), balance assessment, medical clearance before an athlete can return to play, and education in the area of concussion symptoms and risks. Although it is the recommendation of the NCAA to include baseline testing in its general protocol, five years ago a study concluded that as many as 70% of the football team sample did not conduct baseline testing (Chinn, 2013). The results of this study identify a significant failure in compliance with NCAA and NATA guidelines.

Chronological Description of Historical Events Contributing to the Identification of Concussion as a Social Problem

In 1905, 18 collegiate football players died from head injuries. Several university presidents suggested that football be abolished. President Teddy Roosevelt intervened to save the sport, announcing an emergency summit at the White House. The summit led to dramatic changes in how the game was played and led to the creation of the NCAA as a governing body to oversee collegiate sports (Fainaru-Wada, 2013).

As football evolved through the twentieth century, so did the technology for protecting the head. Leather helmets were introduced in the 1930s but were not mandatory. Helmets didn't become mandatory until 1943, and in the mid 1950s, plastic helmets were introduced. With the growing popularity of plastic helmets came a dramatic decrease in catastrophic head injuries such as skull fractures and hemorrhages. The unintended consequence was that the human head became a weapon in the game of football (Fainaru-Wada, 2013). It can be argued that this is the most significant development in the history of concussions in football.

An early pioneer in the field of concussion research was Dr. Jeff Barth from the University of Virginia. "In the seventies and eighties no one thought mild head injury was a problem," said Barth. "When you'd go to the doctor or the ER with a mild head injury the treatment was to take a couple days off and take some aspirin" (Fainaru-Wada, p.33). Barth evaluated more than 1,200 concussions over a two-year period and decided to study them to see if he could improve treatment and contribute to the research. His study determined that more than 30% of the victims had not returned to work after ninety days. When his research was criticized by his colleagues, he decided to apply his research to football players, and a new field in the medical arena was born: Sports Neuropsychology, the study of the brain under the influence of sports.

Dr. Barth's publication caught the eye of a neurosurgeon named Joe Maroon. Dr. Maroon was the designated physician for the Pittsburgh Steelers. He partnered with another neurosurgeon named Mark Lovell to determine if a test could be created to measure baseline data for the concussed athlete. The goal was to obtain quantifiable data to determine whether a player was fit to return to play. They developed a cognitive-oriented questionnaire and administered it to 27 Pittsburgh Steelers, including fullback Merrill Hoge, as a test study in 1993. After

sustaining several blows to the head, which left Hoge with chronic headaches and temporary memory loss, Hoge was traded to the Chicago Bears. On October 2, 1994 Hoge took a head shot that caved in his face mask and sliced his chin open. He was removed from the game to get stitches and a new helmet and, while on the trainer table, lost consciousness. Two days later, while attending a fundraiser, he spontaneously lost his vision for ten seconds. Panicked, he called his former team physician Joe Maroon for consult. Dr. Maroon then flew Hoge to Pittsburgh and administered their cognitive assessment. He was found to be 50% impaired and subsequently retired. Merrill Hoge became the first athlete to retire based on the results of what would later become the internationally marketed tool for evaluating concussions: IMPACT (Immediate Post-Concussion Assessment and Cognitive Testing). In 1996, Merrill Hoge sued the Chicago Bears for negligence. He was awarded \$1.55 million plus \$100,000 for pain and suffering (Fainaru-Wada, 2013).

Nineteen ninety four was referred to as the “season of concussions” in the NFL. In addition to Hodge, another high-profile athlete named Al Toon announced his retirement in the prime of his career due to repeat concussions. Three high-profile quarterbacks were knocked out of games in one week due to concussions. NFL commissioner Paul Tagliabue responded by creating a scientific initiative. He assembled a committee of experts to study concussions called the Mild Traumatic Brain Injury Committee (MTBIC). The chairperson of the committee was Dr. Elliott Pellman, a rheumatologist who had never published a single piece of literature on the subject of concussions and was later found to have falsified his credentials. He claimed to have obtained his medical degree from the State University of New York, when he had actually earned his medical degree in Guadalajara, Mexico (Fainaru-Wada, 2013). The MTBIC was made up

mostly of NFL insiders, team doctors who had been sending concussed athletes back on the field for years, and had only one neurologist and one neurosurgeon.

The late 1990s was the beginning of a time when concussion research was becoming more prevalent than ever before. Scholars and medical professionals were conducting studies at all levels. Dr. Kevin Guskiewicz, a professor at the University of North Carolina, conducted a study in 2001, which evaluated the long-term effects of concussion on retired NFL players. The survey concluded that players who had suffered one concussion were three times more likely to experience depression. Additionally, players who had suffered three or more concussions were five times more likely to suffer early onset dementia, cognitive impairment, memory loss, and language difficulties. The paper was published in *Neurosurgery* in 2005 (Guskiewicz, 2005). This paper had historical significance because it was the first published paper to conclude that football causes brain damage.

In response to the growing concern of concussions as an epidemic in football, the MTBIC published a total of 16 papers between 2003 and 2009, 14 of which disputed the significance of concussion as a problem. The first two papers looked at return-to-play guidelines and the biomechanics of concussion. After the first four papers were published in *Neurosurgery*, many concussion researchers began to refer to the journal as the “Official medical journal of the National Football League” or “Journal of no NFL Concussions” (Fainaru-Wada, 2013). The 14 papers published by the MTBIC that investigated the effects of concussion essentially concluded that there were no significant risks of concussion in football, and no significant side effects associated with concussion. In paper number seven, the MTBIC concluded that it could be safe for college/high school football players to be cleared to return to play on the same day as their injury. This attempt to downplay the significance of the growing body of evidence would

eventually become the subject of a best-selling book referenced in this paper, which would be adapted for a Hollywood movie that would gross more than \$47 million (www.idmb.com, 2015).

Mike Webster played center in the NFL for 17 years, primarily with the Pittsburgh Steelers. After retirement, Webster became afflicted with severe chronic headaches, memory loss, mood swings, and depression. He was a Hall of Fame inductee who eventually lost his family, his home, and any will to live, other than his relentless pursuit of compensation from the NFL for negligence. After years of legal battles, on October 28, 1999, he was awarded “total and permanent” disability benefits due to his injuries. After the IRS garnished most of the disability payments for unpaid back-taxes, his monthly checks never exceeded \$641. He was living in a van, using super glue to keep his teeth intact, and using a Taser to manage his severe pain. On September 24, 2002, at the age of fifty, Webster died. It was Mike Webster’s brain that would reveal the unique pathological characteristics of what would be a newly discovered neurological condition later referred to as Chronic Traumatic Encephalopathy. The doctor on call at the Pittsburgh coroner’s office was Dr. Bennet Omalu. It took Dr. Omalu two years to meet the burden of scientific proof with his discovery of what he would call Chronic Traumatic Encephalopathy. One year later, in February of 2005, under the scrutiny of being referred to as the “Official Journal of the NFL”, *Neurosurgery* agreed to publish Dr. Omalu’s paper. The MTBIC would unsuccessfully attempt to have the paper retracted (Fainaru-Wada, 2013).

In November of 2006, Andre Waters, a former safety in the NFL, committed suicide by shooting himself in the head. In a 1994 interview, he said that he lost count of how many concussions he had sustained at fifteen. After his brain tissue was examined and found to be positive for CTE, the *New York Times* ran a front page article reporting on his death and his CTE on January 18, 2007. The new disease that plagued football players had now been published in a

mainstream publication and Joe Maroon, the longtime neurological consultant to the Pittsburgh Steelers, was quoted as saying, “If only ten percent of the mothers in America begin to conceive football as dangerous, that is the end of football” (Fainaru-Wada, p. 321). Three months later, Paul Tagliabue retired as the NFL commissioner and was replaced by the league’s chief operating officer, Roger Goodell.

In June of 2009, the MTBIC published its 16th paper in *Neurosurgery*. After conducting experiments on rats they concluded that “minimal or no brain injury” was likely for concussed football players. A few days after the publication was released, the House Judiciary Committee announced that it would conduct hearings on football and brain damage. They would insist on Roger Goodell being present. The hearings were held on October 28, 2009. Michigan Democrat John Conyers began with an opening statement and then asked Goodell directly, “Is there a link between playing professional football and the likelihood of contracting a brain-related injury such as dementia, Alzheimer’s, depression, or CTE?” Goodell responded by saying, “I’m not the person to answer that question but we’re doing everything we possibly can for our players’ safety.” Linda Sanchez, a Democrat from California, responded by saying, “This reminds me of the tobacco companies pre-1990s, when they kept saying there is no link between smoking and damage to your health.” It was reported to be the hearing’s most dramatic moment. There had been a public association between the NFL and Big Tobacco (Fainaru-Wada, p. 280).

Within three weeks of the hearings Goodell sent a league-wide memo announcing changes to its concussion policy. Players suffering head trauma would be required to be evaluated by an independent neurologist after sustaining any type of head injury, and players suffering any type of concussion symptoms were a “no-go” for practice or games on the same day of the injury. This policy stood in contrast to all of the MTBIC publications. The NFL was

finally beginning to accept their responsibilities regarding player safety. In 2010, Goodell re-organized the MTBIC to remove Dr. Elliott Pellman as its chair, replace him with Dr. Richard Ellenbogen, who was chief of neurosurgery at Seattle's Harbor View Medical Center and instrumental in the passing of the Zachary Lystedt Law, and add Kevin Guskiewicz, the first scholar to associate football and brain damage. Guskiewicz later convinced the owners to change the kickoff point to the thirty-five-yard line, which increased touchbacks and decreased collisions on kickoffs by 43%.

The most recent threat to the NFL and football in general is the rapid growth of college and professional football players retiring early and walking away from millions of dollars in compensation, prematurely depleting the league of some of its most marketable assets. In 2010, the same year that Goodell began to take steps to protect players from suffering blows to the head that could negatively affect their health, and installed more stringent return-to-play guidelines, a total of two players under the age of 30 retired from football, walking away from lucrative contracts. By 2015, five years later, the number was 19.

The concussion epidemic has become a mainstream topic in countless publications, both scientific and non-scientific. The *New York Times* published an article on March 16, 2016 headlined "Deeply Flawed Concussion Research and Ties to Big Tobacco" that began on the front page and concluded with two full additional pages describing the NFL conspiracy and the pre-mature deaths of its players (Schwarz, 2016).

Purpose of Proposed Study

The purpose of this study is to analyze the perceptions and experiences of collegiate compliance officers regarding the NCAA protocol for concussion management. Specifically, this study will investigate what barriers exist that prevent full compliance with the NCAA policy,

how the NCAA compliance officers describe the process of adapting to the NCAA protocol, instruments and methods used by compliance officers to measure school compliance, and their views of its efficacy and consequences of non-compliance.

Research Questions

Overarching question:

How are compliance officers charged with concussion management and return-to-play guidelines in collegiate athletics interpreting and adapting to the NCAA protocol, how do they measure compliance with the policy, and how do they interpret the consequences of non-compliance?

Sub-questions:

1. What areas of compliance are NCAA Division I compliance officers most concerned with?
2. Does your institution have instruments, methods, or procedures to measure compliance?
3. Does your institution file compliance reports to the NCAA?
4. What do you understand the consequences of non-compliance to be?
5. What challenges have compliance officers faced in the installation and ongoing management of the 2010 NCAA concussion protocol?
6. What are the principal barriers that prevent full compliance with the NCAA policy on concussion management?

Conclusion

Concussion management is at a crossroads. The research and events described in this paper have undoubtedly been the catalyst for change in the public perception of the effects of concussions and concussion management. Scientific discovery in the area of concussion

research is still in its relative infancy, requiring an ongoing and growing body of research. The evolution of concussions as a social problem has emerged because of discovery and changing social values. Like smoking, concussions were never of great concern, in large part because there was no research to suggest that they should be. Once the research is finally disseminated, society applies its values to the research and responds. To view concussion management as a social problem through a scholarly lens, one example is the Social Construction Theory authored by Malcom Spector. The Social Construction Theory claims that the construction of a social problem is the process of claims-makers (those who assert that a social problem exists and needs amelioration by persons in authority) identifying social conditions they perceive as immoral, dangerous, or unjust, and that they believe should be addressed (Spector, 1977). The use of this theory to inform the examination of concussions and concussion management is clearly relevant.

In the context of the NFL, the claims-makers would include Dr. Bennett Omalu, with the discovery of CTE, Dr. Guskiewicz, with his publication that empirically linked football and brain injury, countless other scholars and medical practitioners, and the retired NFL players named in the 2011 class action lawsuit. The opponent of the claims-makers, or nay-sayer in this example, is clearly the NFL's MTBIC, which published 16 papers in the *Journal of Neurosurgery* claiming no association with football and head injuries.

In the context of the NCAA, the claims-makers would again include Dr. Bennett Omalu, Dr. Guskiewicz, and countless other scholars and medical practitioners, along with the retired college football players named in the 2018 class action lawsuit. The opponent of the claims-makers, or nay-sayer in this example, would include the NCAA itself, taking a position of "leadership" with concussion policy, but not willing to admit negligence in the legal battles by settling every case before it went to trial.

If the concussion management problem in higher education is to be viewed as a cultural issue, the theory of “Normalization of Deviance” can be employed as a framework. This empirically grounded theory was developed by Sociologist Diane Vaughan. This phenomenon occurs “when actors in an organizational setting, such as a corporation or a government agency, come to define their deviant acts as normal and acceptable because they fit with and conform to the cultural norms of the organization within which they work. Even though their actions may violate some outside legal or social standard and be labeled as criminal or deviant by people outside the organization, organizational offenders do not see these actions as wrong because they are conforming to the cultural mandates that exist within the workgroup culture and environment where they carry out their occupational roles” (Cullen, 2010, p. 977).

The essence of this theory is that members of an organization become blind to deviant behavior because it is a standard practice, and don’t view the behavior as deviant. One of the more famous examples of this practice is the Space Shuttle Challenger. Engineers had identified problems with rocket booster adhesive, but categorized it as an “acceptable risk.” On January 28, 1986, the Space Shuttle exploded as a result of the substandard adhesive, and seven astronauts died (Tombs, 1997). The application of this theory to concussion management in collegiate sports would explain why colleges have had a difficult time adapting to the 2010, policy after more than 100 years of existing with no policy.

We all take risks in life, but we should be aware of the risks so we can determine for ourselves if we are willing to take those risks. Student athletes should have all of the pertinent information when they decide to be honest with their trainers, doctors, parents, and coaches regarding symptoms that result from a head injury. That information will undoubtedly contribute to the decision to even play contact sports, or to a parent allowing their child to play contact

sports. The combination of the scholarly research conducted in the area of concussions and concussion management and the press resulting from the NFL cover-up has brought the significance of concussion to the mainstream. Mike Webster, from the grave, is as responsible as anyone for bringing the significance of concussion to the public eye.

Though significant reform has occurred in recent years at the high school and professional levels, the collegiate level is lagging. There are many inputs and outputs that effect concussion management at the college level. The revenue generated by many Division I colleges creates pressure to keep the best players on the field, regardless of the risks. Pressure to keep the best athletes on the field exists even for the football programs that don't generate a significant amount of revenue. Football is often credited with being the most effective tool to stay connected with alumni and revenue-generating corporate sponsors. Athletes attending college on scholarship feel pressure to play, regardless of concussion symptoms, due to fear of losing their financial aid. Unilateral reform is the most logical approach to concussion management in the NCAA. Coaches are apprehensive to sit their best athletes because the financial stakes are too high. If your opponent has a sub-standard concussion management protocol, and are putting their best players on the field in spite of being concussed, they will have an unfair advantage. Legislation such as the Lystedt Law, in addition to an effective compliance policy and stiff penalties for violation, is the only viable solution to concussion management in the NCAA.

There are several governing authorities such as the NATA, the Centers for Disease Control and Prevention (CDC), and the Institute of Medicine (IOM) that have published position statements and recommendations for proper concussion management protocol. These recommendations have been based on the latest available research and adopted by the high-school- and professional-level organizations. Tool kits have been developed that have been

shown to radically improve concussion management awareness and practices in high schools (Saramiento, 2010). It is beholden to the governing bodies such as the NCAA to choose to place the health of the student athlete above money, and install better concussion management measures.

Although it has been publicly suppressed, the public will learn that there are at least five pending lawsuits that have been filed against the NCAA and institutions of higher education by former student athletes alleging that the NCAA was negligent in their care and treatment of concussed athletes. This negligence has resulted in a variety of disabilities suffered by the plaintiffs (Axon, 2013). The bigger discussion should be a re-examination of the mission of the NCAA and institutions of higher education. Nearly all of the plaintiffs in the aforementioned lawsuits attended public colleges. The leaders at public institutions should have a greater moral and ethical responsibility to protect their athletes from suffering long-term cognitive impairment while competing under the presumed care of the NCAA and their respective colleges.

The benefits of participation on athletics can be countless and beyond measure. It cannot be argued that athletes have been shown to have an increased likelihood of possessing traits such as discipline, self-confidence, team concept, healthy sense of competition, and striving for excellence. Unfortunately, contact sports also include risk of injury, some of which can leave the athlete with life-long disabilities or worse. With youth comes a sense of invincibility, which can overshadow rational thinking regarding injury and physical limitations. It also comes with a lack of wisdom and thinking about the long-term implications of concussion. It is the responsibility of the athlete to self-advocate, but it is also the responsibility of the institutions benefiting from their talent to be vigilant in their efforts to protect the health of the athlete. As our understanding of the adverse effects of concussion grows, the urgency to prevent concussion will intensify.

Concussions in athletics can never be eliminated, but the implementation of an effective RTP policy is the greatest tool available for its diagnosis and treatment. With continued evaluation of RTP practices, advancements can be made in concussion prevention efforts. If the substandard NCAA concussion policy remains unreformed, the consequences will inevitably parallel those felt by the NFL.

CHAPTER II

LITERATURE REVIEW

The path to this study began with a societal shift in the way our culture views concussion management in athletics. The 2010, NCAA policy on concussion management was implemented as a direct result of the societal shift in the way the academic, medical, and subsequently the public viewed the seriousness of concussions in sport, having existed for more than one hundred years without a concussion policy. Two sociological theories are discussed in this literature review that provide the framework for this societal shift: Social Constructionism (Spector, 1977) and Normalization of Deviance (Cullen, 2010). While Normalization of Deviance has a specific application to this particular study, it is interdependent with “Social Constructionism” in relation to concussion management in athletics. The construction of concussion management as a social problem evolved as a direct result of more than one hundred years of deviant practices in athletics regarding the handling and management of concussions.

While there is a large body of research available describing the physiological effects and risk factors for concussion, the focus of this study is concussion and concussion management in athletics. As a result of this focus, the literature review was conducted through the lens of athletics and higher education administration. With only eight years of research that examines compliance with the 2010, NCAA policy on concussion management, it is important for the medical and academic communities to continue to contribute to the literature so institutions of higher education can make informed policy-making decisions regarding concussion management.

Concussion Definition

A concussion is generally defined as a "traumatically induced alteration in mental status that may or may not involve loss of consciousness" or "a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces that may or may not involve loss of consciousness" (Brady, 2011). A simplified definition is provided by Cobb (2004), which states, "Concussion is a form of head injury that occurs immediately after a blunt force strikes the head causing the brain to move within the confines of the skull" (p.262). The term concussion originates from the Latin verb *conceture*, which means "to shake violently" (Pretty, 2017).

Physiological Effects of Concussion in Athletics

The risks of concussion range from mild to severe. Diagnosis and treatment of concussion is complex because unlike most sport-related injuries, it cannot be seen with the naked eye or even with a CAT scan or MRI (Institute of Health, 2013).

The most devastating variety of concussions have been shown to result from either multiple concussions, or an athlete returning to play before an existing concussion has completely healed. In these instances, the risk of catastrophic injury is greatly increased. Second-impact syndrome (SIS), cranial hemorrhaging, cranial swelling, brain damage, and death are the immediate risks for an athlete who has been improperly diagnosed or treated and who returns to play prematurely. Long-term risks of athletes who have sustained multiple concussions may include diminished cognitive function, CTE, AD, and Amyotrophic Lateral Sclerosis (ALS) (Randolph, 2009).

Second-impact syndrome and cranial swelling can occur when an athlete suffers a head injury or concussion before the brain has completely recovered from a prior head injury or concussion (Cobb, 2004). When the brain is traumatized while currently concussed, the result is severe cranial swelling that is often fatal. If death does not occur, the victim will likely be severely disabled as in the 2006, Zachary Lystedt case, which inspired the Zachary Lystedt Law. The pathophysiology of second-impact syndrome is controversial, but it is generally believed that when the brain suffers an acute trauma while concussed, the brain loses its ability to auto-regulate the blood vessels, which results in over-dilation, causing a fatal degree of cranial swelling (Thomas, 2011).

An analysis of the U.S. National Registry of Sudden Death in Young Athletes revealed that over a thirty-year period (1980-2009), 261 sport-related deaths resulted from trauma-related injuries involving the head and/or neck (Thomas, 2011). The tragedy of these deaths is that most of them would have likely been prevented with correct diagnosis and treatment.

Chronic Traumatic Encephalopathy, Alzheimer's Disease (AD), and ALS are chronic, progressive, and degenerative diseases that can be caused by repeated concussions. CTE is defined as a neurodegenerative disease that presents early onset symptoms such as chronic headaches, depression, memory lapses, anxiety, apathy, and severe mood swings (Randolph, 2013). In earlier years it was believed to only occur in boxers and was referred to as "punch-drunk" syndrome. The pathophysiology of CTE is not fully understood by researchers but is believed to result from a buildup of protein or scar tissue in the brain (Sports Legacy Institute, 2013). Since the clinical discovery of CTE, there have been more than 50 positive diagnoses in post-mortem autopsies performed on former NFL players, and with the new knowledge that is available, more than ten living retired NFL players have been diagnosed with CTE.

Amyotrophic Lateral Sclerosis and AD have also been linked to repeated head trauma over time. The results of a study examining the frequency of neurodegenerative diseases in retired NFL players revealed that subjects had triple the risk of death caused by diseases that damage the brain cells, and four times the risk of dying from ALS or AD (Lehman, 2012).

It has been shown that cognitive deficiencies are an additional risk factor of concussion that has had recent literature supporting this claim and contributing to the public health concern. Several publications have positively linked concussion to cognitive impairment and learning disabilities. One study that examined the prevalence of learning disabilities in a sample of college football players concluded that 19% of athletes who suffered multiple concussions had a diagnosed learning disability, compared to a frequency of 11% in the control (Collins, 1999).

Another study examined the prevalence of cognitive impairment in retired NFL players, averaging 64 years of age, with a history of repeated head trauma. The results showed that more than 35% of the sample suffered from cognitive impairment, compared to less than five percent frequency in the control (Randolph, 2013).

Concussion and Concussion Management in Athletics

Recent research estimates that approximately 1.6 – 3.8 million sport-related concussions occur each year in the United States (Brady, 2011), which can lead to chronic disease, swelling of the brain, cognitive impairment, chronic headaches, mood disorders, depression, blurred vision, double vision, cranial hemorrhaging, and death if improperly diagnosed and/or treated.

In a recent study that assessed barriers in concussive symptom reporting, it was reported that 66% of the participants would not report signs of concussion to their coach or athletic trainer and would continue playing. The other 33% indicated that they would sit out for five to ten minutes before returning to the field of play (Chrisman, 2013). These numbers are

disconcertingly high when considering how many concussions go unreported, leaving these athletes vulnerable to the immediate risk of second-impact syndrome, cranial swelling, and death, as well as long-term chronic disease.

The National Collegiate Athletic Association (NCAA) is the governing body that regulates policy in college athletics and, prior to 2010, recommended that colleges and universities adhere to the NATA guidelines for concussion management. Studies have shown, however, that as many as 70% of NCAA schools were not adhering to these guidelines (Chinn, 2013).

The NCAA website explains that the principal objective behind the association's origins was to "protect young people from the dangerous and exploitive athletics practices of the time" (Pretty, 2014). It later qualifies that statement by saying, "While each school is responsible for the welfare of its student athletes, the NCAA provides leadership by establishing safety guidelines, playing rules, and research into the cause of injuries to assist decision making" (citation?). Under the NCAA's current concussion policy, schools are expected to independently install their own concussion management plan, which is expected to meet the NCAA's basic requirements. Because the policy does not include an enforcement component, there is no way of knowing if members of the NCAA follow the concussion plans that are submitted. It's one thing to have a policy, another thing altogether to follow it.

The NCAA protocol implemented in 2010 (NCAA Bylaw: 3.2.4.17) outlined some of the basic components that *should* be included in the schools' concussion management plan. The basic components included a requirement that any athlete who shows signs, symptoms, or behavior consistent with a concussion be removed from activity and evaluated by a health care professional (Baugh, 2014). It also required that if the athlete was diagnosed with a concussion

that they not be allowed to resume sports activity until they had received medical clearance from the team physician or another designated health care professional. Students must also complete an educational seminar each year to learn about the signs and symptoms of concussions and understand their responsibility to report symptoms to the medical staff. Recent studies have shown that there was, and still is, a significant lack of consistency in implementation of and compliance with the NCAA protocol, particularly in the educational aspects of the protocol (Baugh, 2014).

Most concussion management plans in college athletics emphasize the diagnosis and treatment of concussions, not education and prevention. Of the few studies that have been published that focus on collegiate-level concussion management, significant variability has been shown to exist from one institution to another. Some institutions have been found to be in complete compliance, others are missing key components of the NCAA protocol, and surprisingly, some institutions lack a concussion management plan altogether (Baugh, 2016).

A 2017, study of concussion management compliance with the 2010, NCAA policy concluded that while improvements have been made, one quarter of the responding schools were still failing to deliver athletes with annual concussion education (Baugh, 2017). The NATA and the Institute of Health (IOH) guidelines are regarded as the “gold standard” of concussion management protocol. These guidelines are the basis of the Zachary Lystedt Law, which legislates concussion management protocol in fifty states (Chrisman, 2013).

The Zachary Lystedt Law governs RTPs at the high school level after being legislatively installed in 2009. It was named for a junior high school football player who suffered a concussion after a severe blow to the head, returned to the game, and was left severely disabled after suffering second-impact syndrome. The Lystedt Law requires that athletes and parents be

educated in the risks associated with concussion, that a player suspected of concussion be immediately removed from play, and that an athlete must receive written clearance from a medical professional trained in concussion management before the athlete can return to play (Johnson, 2012). Since the law was passed in Washington, the bill has served as a template for all fifty states to pass similar legislation.

There are several governing authorities such as the NATA, the Centers for Disease Control and Prevention (CDC), and the Institute of Medicine (IOM) that have published position statements and recommendations for proper concussion management protocol. These recommendations have been based on the latest available research and adopted by the high school and professional level organizations. Tool kits have been developed that have been shown to radically improve concussion management awareness and practices in high schools (Saramiento, 2010).

Baseline testing is thought to be a crucial component of an effective concussion management plan. Many variations of baseline testing are employed by athletic trainers and medical staff in the diagnosis and determination of return-to-play status of an athlete that has been concussed or is believed to be concussed. Collection of normative neuropsychological data in addition to visual motor speed, reaction time, and verbal and visual reaction time are the principle areas of evaluation in baseline testing (Resch, 2013).

The testing is administered pre-season or off-season, which ensures that the data attained is that of a non-concussed athlete. When a player is suspected to be concussed, they re-take the test, which then provides crucial information to the evaluator. Because the evaluator cannot see the concussion, discernment of its existence is subjective. The baseline test provides objective data that helps determine if the athlete has fully recovered from the injury (McCrea, 1997).

Although it has been shown that baseline testing has had questionable reliability in some applications, it is still the best tool available to evaluators in assessing concussed athletes and preventing additional concussions or, worse, second-impact syndrome (Johnson, 2012). It is important to remember that while baseline testing is a valuable tool in concussion management, it is only one component of a complete concussion management plan.

Literature that assesses the validity and reliability of baseline testing at the collegiate level is limited. One study found that while 95% of the sample administered consistent baseline testing on its athletes, 87% administered the testing to athletes considered to be at high risk for concussion (Baugh, 2016). The study concluded that there was room for improvement for NCAA member schools to align with best practices.

The discovery of concussion-related health risks has led many medical professionals and the National Athletic Trainers Association (NATA) to evaluate concussion management and install more vigilant protocols, the most significant of which is recommending baseline testing and clearance from a medical professional independent of the team or organization. The practice of baseline testing has been shown to be the most effective tool used by medical practitioners in determining whether an athlete has fully recovered from a concussion (Resch, 2013). By requiring the clearance of an independent medical professional trained in concussion treatment, many internal and external factors that could influence the timetable of an athlete returning to play are eliminated.

Return-to-play guidelines refers to the process a sports team's medical staff employs to determine if a player is ready to continue practicing and playing in competitions after suffering an injury. The quality and effectiveness of a team's RTP policy has a significant impact on

proper diagnosis and treatment of concussion and concussion-related injuries. It is the most effective tool in the prevention of catastrophic injury such as CTE and SIS (Sabini, 2011).

Litigation

In July of 2014, the NCAA settled a class-action lawsuit that would result in the creation of a \$75 million fund designated to the medical diagnosis of current and former college athletes to determine if they had suffered brain trauma while playing contact sports. The fund did not allocate any money for players who have suffered concussions and the related side effects (Axon, 2014).

In June of 2018, the NCAA settled a lawsuit with the widow of former Texas Longhorn football player Greg Ploetz. The plaintiff argued that the NCAA was responsible for Ploetz's premature death; Ploetz died at the age of 66 and was diagnosed (post-mortem) with CTE. The settlement is significant because it was the first civil case that claimed the NCAA was negligent in its protection of athletes from head injuries (Schlabach, 2018). In July of 2018, a class action lawsuit against the NCAA was filed that includes more than 100 former college athletes. The lawsuit claims that the NCAA was negligent in its effort to protect student athletes from head injuries (Daughterty, 2018).

Social Constructionism and Normalization of Deviance

The 2010 NCAA policy on concussion management was implemented as a direct result of a cultural shift in the way our culture views concussion management in athletics, having existed for more than one hundred years without a concussion policy. Two sociological theories are discussed in this literature review that provide the framework for this societal shift: Social Constructionism (Spector, 1977) and Normalization of Deviance (Cullen, 2010). While Normalization of Deviance has a specific application to this particular study, it is interdependent

with “Social Constructionism” in relation to concussion management in athletics. The construction of concussion management as a social problem evolved as a direct result of more than one hundred years of deviant practices in athletics regarding the handling and management of concussions.

The Social Construction Theory claims that the construction of a social problem is the process of claims-makers (those who assert that a social problem exists and needs reform by persons in authority) identifying social conditions they perceive as immoral, dangerous, or unjust, and that they believe should be addressed (Spector, 1977). The use of this theory to inform the examination of concussions and concussion management is clearly relevant.

In the context of the NFL, the claims-makers would include Dr. Bennett Omalu, with the discovery of CTE, Dr. Guskiewicz, with his publication that empirically linked football and brain injury, countless other scholars and medical practitioners, and the retired NFL players named in the 2011 class action lawsuit. The opponent of the claims-makers, or nay-sayer in this example, is clearly the NFL’s MTBIC, which published 16 papers in the *Journal of Neurosurgery* claiming no association with football and head injuries.

In the context of the NCAA, the claims-makers would again include Dr. Bennett Omalu, Dr. Guskiewicz, countless other scholars and medical practitioners, along with the retired college football players named in the 2018 class action lawsuit. The opponent of the claims-makers, or nay-sayer in this example, would include the NCAA itself, taking a position of “leadership” with concussion policy, but not willing to admit negligence in the legal battles by settling every case before it went to trial.

If the concussion management problem in higher education is to be viewed as a cultural issue, the theory of “Normalization of Deviance” can be employed as a framework. This

empirically grounded theory was developed by Sociologist Diane Vaughan. This phenomenon occurs “when actors in an organizational setting, such as a corporation or a government agency, come to define their deviant acts as normal and acceptable because they fit with and conform to the cultural norms of the organization within which they work. Even though their actions may violate some outside legal or social standard and be labeled as criminal or deviant by people outside the organization, organizational offenders do not see these actions as wrong because they are conforming to the cultural mandates that exist within the workgroup culture and environment where they carry out their occupational roles” (Cullen, 2010, p. 977). The essence of this theory is that members of an organization become blind to deviant behavior because it is a standard practice, and don’t view the behavior as deviant.

The application of this theory to concussion management in collegiate sports would explain why colleges have had a difficult time adapting to the 2010 policy after more than 100 years of existing with no policy, and why the NCAA has failed to install a mechanism of auditing the degree to which member institutions are in compliance with the concussion policy.

Evidence of Normalization of Deviance

In December of 2014, The Big Ten Conference announced revised concussion management guidelines that included penalties for non-compliance. The announcement came as a result of several publicly criticized violations of the policy, including an incident where Michigan quarterback Shane Morris was put back in a game against Minnesota after suffering a vicious blow to the head that left him staggering and dazed (Solomon, 2014).

In April of 2015, Jim Delaney, Commissioner of the Big Ten, announced that they had not installed penalties for violating the concussion protocol. He explained that “concussion penalties will evolve over time” (Solomon, 2015). In December of 2017, Houston Texan

Quarterback Tom Savage suffered a head injury during a game that left his hands shaking erratically. He returned to the game several plays later, a clear violation of the NFL concussion protocol. Three weeks later the NFL announced that they had reviewed the incident and would not discipline the Houston Texans (Mather, 2017).

Conclusion

To effectively navigate the path to this study, a description of how our society came to view concussion management as a social problem was important. It wasn't enough to simply describe the effects of concussion, but the effects of concussion in athletics. Additionally, to understand the importance of this study, to simply discuss concussion management would not have been adequate, therefore, concussion management in athletics was a crucial piece of the literature review. With only eight years of data that investigates compliance with the 2010 policy, the "hole" or "gap" in the research emerged with clarity. Many quantitative studies have been conducted evaluating many aspects of the 2010, NCAA concussion policy, but no qualitative studies have been conducted that investigate the viewpoint of the senior compliance officers in institutions of higher education. They are the administrators who are ultimately responsible for their institutions' compliance with NCAA rules and regulations.

CHAPTER III

METHODOLOGY

Practical and Researchable Problem

With the installation of the Zachary Lystedt Law in 2009, the NCAA policy in 2010, and the NFL policy in 2013, the research in the area of concussion management is extremely limited, specifically in the college setting. With the recent legislation comes the responsibility of inspection and confirmation that the laws and policies installed are effective. With a lack of continuity prior to the NCAA policy, adopting the new policy has been difficult and sometimes problematic. Subsequently, there is still work to be done in addressing the quality of concussion management in collegiate athletics, and the degree to which the policy is complied with. Additionally, the lack of continuity with compliance can be improved by gaining a better understanding of the instruments used by institutions of higher education to measure their level of compliance. To effectively evaluate the quality and continuity of the NCAA protocol, valuable insight was acquired from the compliance officers charged with following the NCAA protocol. What was not known is how the compliance officers have interpreted and adapted to the NCAA policy, how they view the efficacy of the new protocol, how they measure compliance, and what they understand the consequences of non-compliance to be.

Purpose of the Study

The purpose of this study was to describe and analyze the experiences of the compliance officers while interpreting, implementing, and adapting to the NCAA protocol for concussion management. Specifically, this study investigates how the compliance officers describe the process of interpreting, adapting, and managing the NCAA protocol, their views of its efficacy

based on their experiences, how they measure compliance with the policy, and what they understand the consequences of non-compliance to be. By exploring these issues this study produced a deeper understanding of how compliance officers and college athletic administrators are responding to the NCAA's efforts to improve the quality of concussion management within higher education.

Conceptual Framework

The diagram on the following page presents the nature of this study. While I was seeking to understand the experiences of the compliance officers in implementing and managing the 2010, NCAA policy on concussion management, and their perceptions of its efficacy, I was also seeking to understand possible barriers that prevent institutions of higher education from full compliance with the policy. Understanding the possible barriers to full compliance with the 2010, NCAA concussion policy can possibly help institutions overcome those barriers. If barriers to compliance are minimized, the safety of the student athlete is maximized.

Research Questions

Overarching question:

How are compliance officers charged with concussion management and return-to-play guidelines in collegiate athletics interpreting and adapting to the NCAA protocol, how do they measure compliance with the policy, and how do they interpret the consequences of non-compliance?

Sub-questions:

1. What areas of compliance are NCAA Division I compliance officers most concerned with?
2. Does your institution have instruments, methods, or procedures to measure compliance?
3. Does your institution file compliance reports to the NCAA?
4. What do you understand the consequences of non-compliance to be?

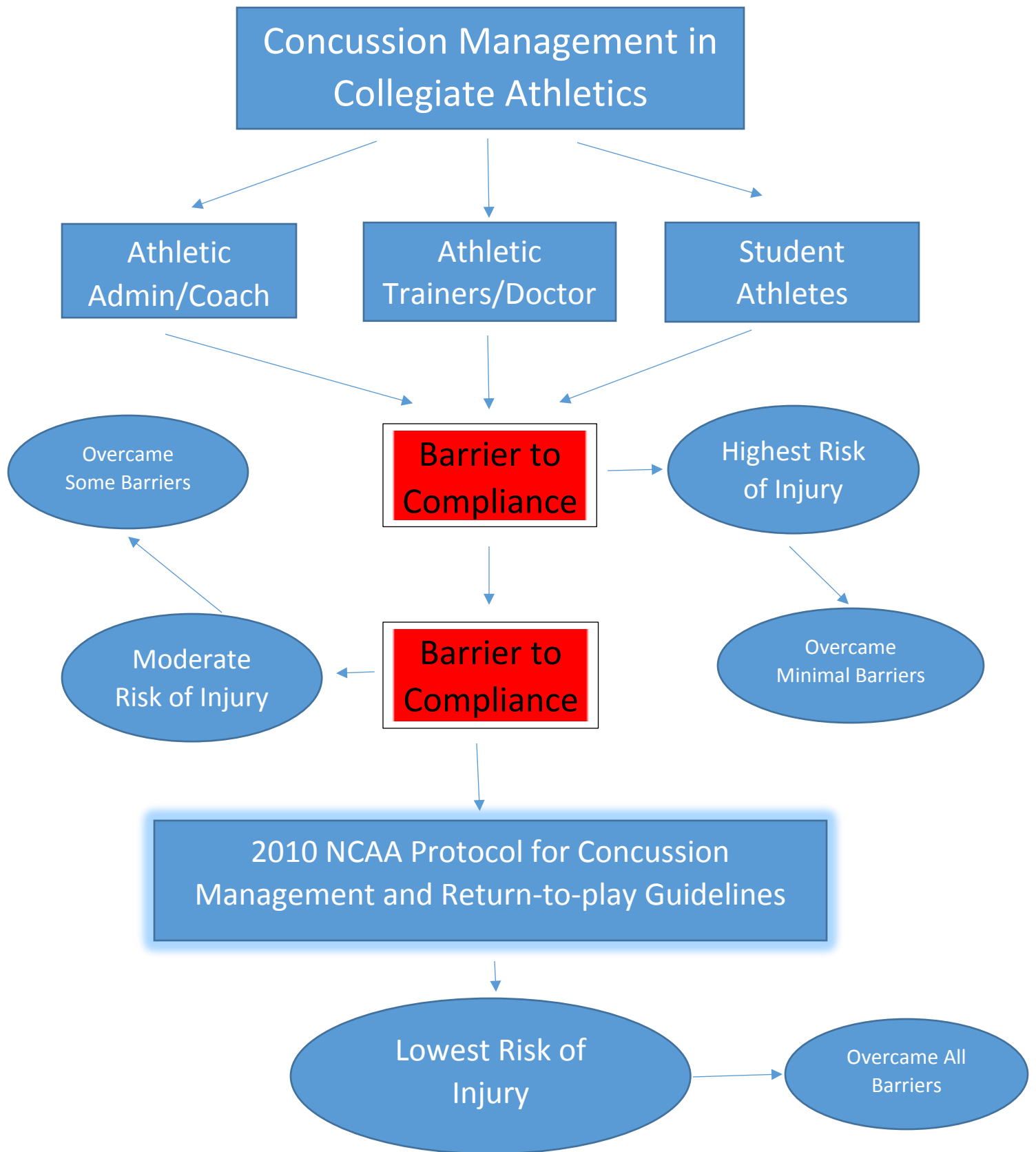


Figure 1. Conceptual Framework

5. What challenges have compliance officers faced in the installation and ongoing management of the 2010 NCAA concussion protocol?
6. What are the principal barriers that prevent full compliance with the NCAA policy on concussion management?

Significance of the Study

Scientific evidence has shown the seriousness of the long- and short-term effects of sport-related concussion. As the governing body for collegiate athletics, the National Collegiate Athletics Association (NCAA) did not have a policy for concussion management and return-to-play guidelines until 2010. In 2010, the NCAA installed a concussion management policy that required all member schools to implement a concussion management policy and included the core elements of the policy. Although the policy was a step in the right direction, it left a significant portion of the policy to be decided on by individual schools. The National Athletic Trainers Association (NATA) athletic trainers, who had previously been following the NATA policy on concussion management, would now be charged with implementing the new NCAA policy. The protocol implemented in 2010 outlined some of the basic components that the schools' concussion management plans should include. The basic components included a requirement that any athlete who shows signs, symptoms, or behavior consistent with a concussion be removed from activity and evaluated by a health care professional (Baugh, 2014). It also required that if the athlete was diagnosed with a concussion they not be allowed to resume sports activity until they had received medical clearance from the team physician or another designated health care professional. Students must also complete an educational seminar each year to learn about the signs and symptoms of concussions and understand their responsibility to report symptoms to the medical staff. Studies have shown that there was, and still is, a

significant lack of consistency in implementation of and compliance with the NCAA protocol, particularly in the educational aspects of the protocol (Baugh, 2014).

Methodology

This study used a general qualitative design, with a pragmatic worldview. A review of the literature exposed the lack of continuity in the compliance with the NCAA protocol implemented in 2010. Many of the studies that have been conducted that examine compliance have shown that the educational element of concussion signs and symptoms is the most frequently neglected or missing from collegiate concussion management protocol (Baugh, 2016). This discovery is evidence that there may be problems or obstacles that collegiate athletic programs face when implementing the NCAA protocol. To better understand the possible problems or obstacles so improvements can be made in the delivery of concussion education to college athletes, a pragmatic or problem-solving approach was the most effective (Creswell, 2013). The information collected through multiple case studies resulted in gaining insight into how the new NCAA concussion management policy, procedures, and protocols are being implemented and determine both the common and unique issues that are influencing the institutions' degree of compliance with the 2010, NCAA policy. The pragmatic approach to this general qualitative study also revealed how the new policy and protocols are understood by compliance officers, thus contributing to the knowledge of what works in the process of compliance with the 2010, NCAA policy (Creswell, 2013) and, subsequently, what doesn't work.

To obtain saturation of data, and to effectively analyze the data, a general qualitative study design is warranted for this study. It was not enough to gather information that describes concussion management protocol, procedure, and compliance from a single institution due to the

latitude given to institutions of higher education by the NCAA in implementing the 2010 policy on concussion management. Comparing and contrasting the implementation process from multiple institutions provided a map that illustrates how improvements can be made in the guidance the NCAA provides for implementing the new concussion management policy and ultimately inform the delivery of concussion education to collegiate student athletes. Having multiple perspectives on the issue illustrated the elements of the process (Creswell, 2013), which led to a greater understanding of how the current implementation process is working for compliance officers and inform understanding of how they and their institutions are experiencing challenges in compliance with the NCAA protocol. As this is the objective of the study, each case was selected to provide an instrumental case, identifying the common and unique aspects of compliance officers' experience with implementing the new NCAA protocol. "When the purpose of case study is to go beyond the case, we call it 'instrumental' case study" (Stake, 2006, p. 8).

Reflections on My Identity (Reflexivity)

There are many elements of my identity that are pertinent to disclose. First, I am a health practitioner and a policy maker. Being a fitness professional and a manager in a large health club has put me in a position to evaluate an individual's health, and institute policy for a department that serves nearly 4000 members. Although I have never diagnosed a concussion (I am not qualified to do so), I understand the evaluation process when assessing health. With a degree in Exercise Science I have an in-depth knowledge of human anatomy and physiology in application to exercise and stress on the human body. I am certified by the American College of Sports Medicine (ACSM) as an exercise physiologist, and have a "heads up" certificate, which means I am familiar with the signs and symptoms of concussion. I have never, however, had any

training or exposure to concussion diagnosis, or any procedure relating to concussion management.

I am a former football player, and have a son who was a college football player. Exposure to the concussion management protocol, baseline testing, and return-to-play guidelines at his high school is what led me to concussion management practices as a research interest. I learned of practices that were legislated to high schools, and attended an ACSM conference and a lecture where the author of this legislation explained the background and process of passing the Zachary Lystedt law. Upon initial investigation, I learned that there was no such legislation at the college or professional levels. Neither I nor my son have ever been diagnosed with a concussion. There were absolutely no guidelines for concussion management when I played football in the mid- to late 1980s. I was informed as a parent of the concussion management protocol used by the institution where my son plays football. Although I have knowledge of concussion management, its history, and current practices, I have never been charged with diagnosing a concussion or implementing any return-to-play guidelines. I will, therefore, have no insight to the experiences of compliance officers that *are* being charged with concussion implementation of and compliance with the NCAA protocol.

Finally, I am employed by an institution of higher education. In my position, I have interacted with many departments and governing bodies within the institution. I have been exposed to the inner workings and bureaucratic procedures of an institution of higher education. I have never, however, had any dealings with the athletic department or been exposed to any athletic policy or policy-maker. Furthermore, I have selected a sample with attributes that I have never had any exposure to in any capacity.

Sampling, Subjects, Access, and Setting

Site or Source of Potential Study Participants

The context of this study was collegiate athletics. I recruited participants who are compliance officers charged with compliance with the NCAA concussion management protocol. I recruited study participants from the pool of compliance officers who serve to oversee athletic compliance for Division I colleges and universities.

Population

The participants for this study included ten compliance officers who are employed by Division I institutions of higher education, in addition to one compliance commissioner. To obtain saturation, I collected data from ten qualified participants who provided key information about compliance with the 2010 NCAA policy and protocol in their institution (Creswell, 2013).

Access and Recruitment

To gain access to a large enough sample of compliance officers, I started with an e-mail that introduces the researcher and briefly describes the nature of the study. I communicated the intent of the study, and ensured anonymity and confidentiality. Because I intended to conduct as many interviews as possible in person, I started the recruitment process with regional schools within a two-hour driving distance. I continued this process, expanding beyond the two-hour radius, until I received agreement to participate from a large enough sample.

Purposeful Sampling Strategy and Numbers

I have selected Division I schools as the context of my study. Examples of institutions that meet this criteria include six universities within the initially targeted geographical region. Since I needed to recruit ten to twelve participants to represent ten instrumental cases, I needed to expand the geographical boundaries of the region from which I am recruiting participants.

These schools are all members of the National Collegiate Athletic Association (NCAA). This sample was chosen for two reasons. First, there are no studies that investigate Division I schools exclusively from the viewpoint of the compliance officer, which became clear to me during the literature review and shed light on an obvious hole in the research. Second, selecting schools in this category will likely provide the greatest source of information, as they are schools that offer athletic scholarships, solicit sponsorships, are eligible for nationally televised bowl games, and potentially generate revenue for their institutions. Division 2 and 3 don't operate under the same circumstances, and don't have as much to lose if found to be in violation of an NCAA policy. Additionally, as I mentioned previously, it was important to select a sample to which I have never had any exposure in any way. I have never worked for, played for, or been charged with athletic compliance for a Division I athletic department, and my son played Division 2 football. I created a transcendental personal epoche to ensure a fresh view of the data collected during the interview and analysis process (Creswell, 2013).

Once a subject had completed the consent process to participate in the study, I thanked the subject and asked to schedule dates and times for the data collection process that were most convenient for the interviewee. I then traveled to the site of each case at the agreed date and time, and conducted my data collection in a setting that was comfortable for the subject. If the subject was more than a two-hour driving distance, I requested a phone interview.

Data Collection Methods, Procedures, and Instrumentation

Forms of Data

The two forms of data that were used are the information gathered in the interviews with the subjects attained by following the interview protocol, and documents that may have been obtained from the subjects, including written procedures and policy.

Data Collection Protocols and Procedures

The procedures for data collection were to follow the interview protocol. The interviews were semi-structured in nature. I followed the interview script protocol and used probing when necessary. With the subject's permission, the interviews were audiotaped for transcription. I stayed on topic, completed the interview in the allotted time, was respectful, and did not interject (Creswell, 2013). I requested additional documents such as written policies and procedures for concussion management and compliance. I memoed after each interview to keep thoughts and ideas organized.

Trustworthiness

To establish trustworthiness, several methods were utilized. First, I collected enough data to achieve saturation. As the data unfolded, if it was determined that saturation had not been achieved, additional cases and/or documentation were sought. Second, I used peer debriefing to enhance the accuracy of the data. To do this, I communicated the data and my interpretations to each of my committee members on an on-going basis to confirm that my interpretations resonated accurately to someone other than the researcher (Creswell, 2013). Third, member checking was used by having the compliance officers that contributed to the data confirm the accuracy of the thematic analysis. Finally, I clarified any researcher bias at the onset of the study so the reader is aware of any possible assumptions made by the researcher (Creswell 2013). The testimony of the compliance commissioner confirmed the themes that had emerged and also served to achieve triangulation. Saturation of data, peer debriefing, member checking, clarification of researcher bias, and triangulation are all validity strategies recommended by Creswell to achieve validity and trustworthiness (Creswell, 2013).

Data Analysis

Type of Data Analysis and Steps

This study used thematic analysis to delineate the data. The interviews were transcribed for in vivo encoding and analysis (Saldana, 2013). Prominent themes were sought throughout the analysis to focus on key issues regarding the concussion management protocol, its implementation, and opinions of the compliance officers for each case. I first conducted a within-case analysis of each case including a description and emerging themes. Next a cross-case analysis was conducted to drill down even further into the data for deeper exploration of common themes and thematic variations across cases (Creswell, 2013). Finally, I interpreted the data to find the meaning of the experiences and perceptions of the subjects' implementation of and compliance with the NCAA protocol. Each individual case was defined as the unit of analysis. Upon completion of the thematic analysis, the themes, sub-themes, and individual case profiles were member checked through e-mail back to the study participants for review and approval.

Delimitations

The primary limitation of this study may be the transferability of the findings to Division II, Division III, and private colleges. There may be attributes of policy and protocol compliance that are exclusive to Division I public colleges that are unknown. Additionally, it is possible that compliance officers may not have been completely forthright in describing any aspects of their concussion management protocol and its compliance that may be perceived as negative or non-compliant.

CHAPTER IV

DATA ANALYSIS

In this chapter, I will provide case profiles of my data set, describe the data analysis process, and present the themes derived from the data analysis. As I began to seek cases for participation in my study, I realized that I would have to seek cases in a geographical area that would preclude all interviews from being face-to-face. I was able to confirm participation from 10 Division 1 senior compliance officers, in addition to one commissioner for compliance of a mid-major Division 1 conference. I conducted three of the interviews face-to-face, and eight on the phone. I was able to record all 11 interviews for transcription without issue. I reviewed the informed consent prior to each interview via e-mail and phone, and provided a general overview to the study and the questions. I assigned codenames to each Division 1 compliance officer (D1CO1-10) and confirmed redaction of any identifying information that could be inadvertently revealed during the interview. Anonymity was an important component to the interviews for the subjects to provide forthright, complete, and honest answers.

As I proceed, it is important to review the questions that this study sought to answer and the conceptual framework of this study.

Overarching question:

How are compliance officers charged with concussion management and return to play guidelines in collegiate athletics interpreting and adapting to the NCAA protocol, how do they measure compliance with the policy, and how do they interpret the consequences of non-compliance?

Sub-questions:

1. What areas of compliance are NCAA Division 1 compliance officers most concerned with?
2. Does your institution have instruments, methods, or procedures to measure compliance?
3. Does your institution file compliance reports to the NCAA?
4. What do you understand the consequences of non-compliance to be?
5. What challenges have compliance officers faced in the installation and ongoing management of the 2010, NCAA concussion protocol?
6. What are the principal barriers that prevent full compliance with the NCAA policy on concussion management?

Conceptual Framework

Table 1, presented above on page 47, presents the overarching nature of this study. While I sought to understand the experiences of the compliance officers in implementing and managing the 2010 NCAA policy on concussion management and their perceptions of its efficacy, I also sought to understand possible barriers that prevent institutions of higher education from full compliance with the policy. Understanding the possible barriers to full compliance with the 2010 NCAA concussion policy can possibly help institutions overcome those barriers. If barriers to compliance are minimized, the safety of the student athlete is maximized.

Case Profiles

The 10 cases provided a sample that represented eight different conferences in the NCAA, with an enrollment range of 4,500 to 30,870 (average 15,857), and student athlete range of 214 to 530 (average 390). Additionally, the sample included both public and private institutions. Finally, the sample of compliance officers had earned a minimum of a graduate

degree and averaged 17.8 years of compliance experience. The following table presents the profile of the 10 cases in the following six categories:

1. Public/Private institution
2. Institution student enrollment
3. Number of student athletes
4. Conference designation
5. Education of senior compliance officer
6. Years of experience for senior compliance officer

Table 1

Case Profiles

Case #	Public/ Private	Enrollment	#Student Athletes	Conference Designation	Education of Compliance Officer	Years' Experience of Compliance Officer
D1CO1	Public	5,000	300	Mid-Major	M.A.	18
D1CO2	Private	4,500	450	Mid-Major	M.A.	10
D1CO3	Private	16,500	220	Mid-Major	M.A.	12
D1CO4	Public	29,200	415	Mid-Major	M.A.	11
D1CO5	Public	21,000	500	Mid-Major	M.S.	20
D1CO6	Public	25,200	450	Mid-Major	M.A.	30
D1CO7	Public	11,800	420	Mid-Major	M.S.	14
D1CO8	Public	9,000	400	Mid-Major	M.A.	21
D1CO9	Public	30,870	530	Power Five	M.A.	26
D1CO10	Private	5,500	214	Mid-Major	J.D.	4
Average	N/A	15,857	390	N/A	N/A	17.8

Data Analysis Process

In analyzing the data, I simply began by reading the transcripts and making a few notes/memos to try to begin to categorize the themes. I then repeated the process and took more extensive notes/memos as the themes began to emerge. I created a color-coded key after the

third time reading the transcripts, which became my coding template. I proceeded to encode the transcripts following the code key, but making further notations/memos of significant data that didn't fall into any of the code key designations. The next step was to categorize and sort the codes for further analysis. This process enabled me to drill down in the data to a deeper level, which enhanced the thematic analysis. The eight codes that emerged from the analysis included:

1. Compliance Officer Duties,
2. Concussion Management Policy/Procedures,
3. Reporting to Conference and NCAA,
4. Measuring Compliance,
5. Consequences of Compliance Violations,
6. Knowledge of Penalties for Concussion Violations, Reception of 2010 Concussion Policy,
7. Barriers to Concussion Compliance, and
8. Barriers to Concussion Consequences.

The use of memoing proved to be a valuable tool when it came time for the analysis. The process of generating analytical memos as I read the transcripts helped in the formulation of possible themes. The discussion by Richards, arguing that qualitative coding is more about retention than reduction, was particularly useful during the cross-case analysis. The idea of learning from the data as I read and revisited the data helped me to delineate through the data and gain a better understanding of its meaning (Richards, 2015). As I progressed with second and third round coding, the data and themes became clearer.

As I dug into the thematic analysis, I found it helpful to recall the questions suggested by Saldana to maintain perspective and focus. "What are the people doing? What are they trying to

accomplish? What do I see going on here? What did I learn from these notes? How is what's going on here similar or different from other cases?" (Saldana, 2016, p. 22).

Having multiple perspectives on the issue illustrated the elements of the process (Creswell, 2013, p. 99) that may lead to a greater understanding of how the current concussion management process is working for compliance officers and inform understanding of how they and their institutions are experiencing challenges compliance with the NCAA protocol.

Themes and Supporting Data

Theme number one: Division 1 compliance officers are mostly concerned with the eligibility, recruiting, and financial aid aspects of compliance. The following excerpts are examples of responses to the question, "What areas of compliance are you most concerned with and consume the majority of your time?"

D1CO1: "The ones that take the majority of your time are certification of eligibility, eligibility is a big one, recruiting, certification of coaches, making sure they are monitoring, um, you know, how many recruiting opportunities they have, making sure they are recruiting at the right times. The NCAA is continuing to pass legislation that affects when you can start recruiting a kid. Financial aid and scholarships, that's a huge one as well."

D1CO3: "It's eligibility or recruiting and financial aid. Um, I'm a one-person compliance office here. I came from a four-person and when I was in Florida we were three, where you're able to monitor more closely, like, employment, you know, car records, everything like that. When you're a one-person shop you need to say, alright, these are the kinda the high-risk areas, eligibility, financial aid, recruiting and that's what, what takes our most focus."

D1CO4: “Really recruiting is obviously a big one that we spend a lot of our time with that, working with our coaches and, um, and assisting them through the recruiting process, um, following through admission to the university, um, and then get, helping the student athlete trend, translate or transfer from any, high school athlete to a collegiate student athlete. Um, another aspect where I spend a lot of my time on is the financial aid, you know, I oversee all of our scholarships, our scholarship distribution, so I’m constantly working our financial aid office or university financial aid office when, with outside scholarships and other financial aid, whether it be grants and loans and things like that, that are being given and that our being given to our student athletes or that our student athletes are applying for.”

Theme number two: Division 1 colleges and universities generally have instruments, methods, or procedures that measure compliance in the areas of eligibility, recruiting, and financial aid. The following excerpts are examples of responses to the question, “Do you have instruments, methods or procedures that measure compliance?” The following responses are specific to eligibility, recruiting, and financial aid.

D1CO5: “Yeah, absolutely. We have a software system, you know, I often refer to it. It’s like our online filing cabinet almost, and it’s a file on every student athlete, every recruit that we’re currently recruiting and it houses all kinds of information and then when you, you know, during the recruit... We almost build a profile for them, or the recruit, and then we house most of that information is biographical information and then coaches also will put in, you know, their vitals, you know, can jump this high, can run this fast, can lift this much, type of thing. Um, and then that’s where they house all their recruiting contacts and recruiting evaluations and then when that prospect signs they flip over and create

their student athlete profile where that's where we house a lot of, all of their information and that includes financial aid, um, and that's where we track to make sure every, each sport is gaining compliance with, um, within their sport limitations of financial aid so we use that."

D1CO7: "Uh, yeah, basically all NCAA Division I schools are required every four years to have an outside entity come in and audit, uh, the compliance, you know, aspect of it. Uh, we also have our conference folks who come in from time to time and check certain things out and obviously the University itself, the institution will have an internal audit division that they pick certain subject areas to audit from time to time on their respective campuses."

D1CO9: "Yes. So there's a program that the NCAA creates called Compliance Assistant, and that houses all of our student athlete financial aid and it is governed, or at least for institutional control purposes, by our student financial aid office, but we utilize that in assuring that we are meeting and not exceeding our institutional or individual squad, um, equivalency limit. Then the other software we use is called JumpForward, and it's in that software that all of our phone, text message, contact, evaluation, and team travel information is monitored and stored."

Theme number three: Division 1 colleges and universities report to the NCAA if violations have occurred in the areas of eligibility, recruiting, and financial aid. The following excerpts are examples of responses to the question, “Can you describe the reports that are filed to your conference or to the NCAA?”

D1CO2: “There’s various NCAA reporting mechanisms in place. We do different reports related to eligibility and retention. Um, graduation rates, our sports sponsorship diversity, that kind of stuff. Um, we are required to report any violations that we have. We self-report those. Um, and then each year there are certain declarations that we’re required to make to the NCAA about our compliance with a variety of things. For example, have all of our coaches taken the recruiting exam? You have to report that and the NCAA has record of that.”

D1CO10: “Yes. Uh, we submit our squad list, which covers financial aid. We also submit our eligibility certification for academic purposes. So that is submitted to our conference, and then all academic data for student athletes on athletic aid is submitted to the NCAA through the APP portal for production of APR materials. We also submit a graduation rate to the NCAA for the GSR report. Um, there is limited recruiting data we’re required to submit to our conference, but not a lot. Um, and then playing and practice seasons, we’re not required to submit anything to the conference or the NCAA with regard to that. So the main things would be academic data for the APP, which becomes the APR score, GSR data, uh, and our eligibility certification form and our squad lists. So the four main things we’re giving to the conference and the NCAA.”

D1CO3: “I mean, there are a lot of reports that compliance gets the burden of having to do just because it’s just the nature of how college athletics works. A lot of that stuff falls on us.

Whether it's specific reports. I mean, we do the APR report, which is the Academic reports, Sports Sponsorship that makes sure that we sponsor enough sports. We participate in the minimum number of events, we did a graduation success rate, things like that. Uh...as far as like compliance-related reports? Uh, you know we have to submit all our violations or waivers and things like that, that kinda go into a database. But other than that, not like an annual report where we resubmit all of our violations or something like that. So, you know, the majority of the violations that we are, most institutions I've been affiliated with are self-reported violations."

Theme number four: Division 1 compliance officers are aware of specific consequences that their institution may face if violations occur in the areas of eligibility, recruiting, and financial aid. The following excerpts are examples of responses to the question, "What possible consequences could this institution suffer if found to be in violation of the NCAA policies?" The following responses are specific to eligibility, recruiting, and financial aid.

D1CO11: "Um, those, those (pause) those consequences can be pretty severe. Uh, and really it depends on what you're looking at. If you've got financial aid issues, um, the NCAA can reduce the amount of athletic grants and aid you're allowed to give in a given year. Uh, if you're looking at recruiting, um, obviously the nuclear button would be for the NCAA to say that that student athlete, excuse me, that that potential student athlete that had the violation tied to them is permanently ineligible at our institution so we would no longer be able to recruit them. The more general thing is to say you can't have contact with a student for two weeks or three weeks, just depending on the level of the violation, and then the other thing the NCAA can do, obviously with recruiting is limit, you know, the

number of coaches that you can send out on the road to recruit off campus or limit the time that they can go out. So those are main things you see from a recruiting standpoint. Um, with financial aid, as I said, they can limit the amount of scholarships that you can give out if you're found to be in violation of those bylaws, and then the final, uh, with academic eligibility, obviously, um, they can fine you there. They can prevent you from going to NCAA championships. So the two main things, and really you're not going to see fines or, uh, teams being deemed ineligible for NCAA championships unless they see something rampant where the institution is blatantly, um, not checking or doing things incorrectly and does not have mechanisms in place to make sure that things are being monitored as the NCAA sees fit."

D1CO3: "Uh, I mean, it can be major... Um. Eligibility violation where if we allow someone to participate while ineligible, uh, the standard penalty is forfeit the contest and a \$500 fine for every game up to \$5,000. Um, that being said, I've been at an institution where we went through two major violations and you have to hire outside counsel and that gets upwards in multimillion dollars, so, so it's very significant and important. The cost of, you know, hiring outside counsel or forfeiting the contest. You know, it's, there's the PR, you know, backlash and cost associated as well."

D1CO5: "Uh, well, there are prescribed penalties and fines for violations. If they are, you know, minimal violations they have more of, you could of a kinder, gentler approach. If we, you know, accidentally, a coach accidentally calls a kid that is too young, you know, to get a phone call, you know, the secretary leaves a message or something on their desk that says, "call Bobby Joe" you know, now coaches know not to do that, but a couple of years ago coaches might just have returned the call and go, "Holy crap, I just called a

sophomore,” they would come in and say, you know, hey, we accidentally called a sophomore. We could report that violation and indicate that it was an inadvertent phone call and explain why it happened. We would be expected to institute corrective measures and to rules educate the coach and to suggest strategies in the future to avoid that same violation, so that would be very, um, minimal consequence. Now, if we, now eligibility, on the last thing we were talkin’ about? If we certified a kid as eligible and he or she was not? And we won contests, there’s a very good chance that they would overturn, they would change, they would vacate those wins. And there’d be a financial fine. Those are just some examples, and it would depend on the violation itself, how it occurred, how frequently occurred, you know, did we, you know, go a whole year overpaying a whole team? That would be a pretty egregious violation. If my whole football team got paid \$1,000 extra, that’s an egregious violation. If it’s one kid, one accident, one keystroke, the kid was supposed to have 100 and the financial lady put 1,000 in and it was a human error, you’d probably just have to have the kid pay back the \$900.

Theme number five: Division 1 colleges and universities do not use instruments, methods, or procedures to measure compliance with the NCAA 2010 concussion policy. The following excerpts are the responses to the question, “Can you describe the instruments, methods, or procedures that this institution uses to measure the degree to which you comply with the NCAA concussion policy?”

D1CO1: Measure Concussion compliance? “No. Wouldn’t even be a concern of mine.”

D1CO2: Measure Concussion compliance? “We had an entire department staff required meeting, um, with our team physician who happened to be a neurologist and concussion specialist, who came in and basically in 2010 gave us the full gamut of what we know

about concussion, what kind of the barriers were at that time, why concussion had, as we learned more about it, and um so I felt like I kind of really came in with a lot of very in-depth knowledge (laugh) about concussion.”

D1CO3: Measure Concussion compliance? “Not to my knowledge.”

D1CO4: Measure Concussion compliance? “No. When you say an audit or an internal audit, I don’t know how much of that we really do outside of acknowledging we have a policy and we do put in place type of thing. Um, so it’s more we’re acknowledging that we have one and that we’re not using it. Sure, you’re opening of yourself up to a lot of liability and, you know, that could be, you know, still a lot of potential lawsuits and, um, especially if you’re not practicing your, you know, operating within your own policy.”

D1CO5: Measure Concussion compliance? “Nuh uh. (negative response) That I know of, no. So the answer to that is a complete no, and that isn’t that I would say quickly to make you think that there’s no, that that’s not a “Hell no” it’s just a no.”

D1CO6: Measure Concussion compliance? “Uh, that’s a good question. I, I honestly don’t know, uh, I have not seen how to evaluate the adherence to a policy of that sort so, um, I’ll have to defer on that one.

D1CO7: Measure Concussion compliance? “I can’t really answer that.”

D1CO8: Measure Concussion compliance? “Not really. No. Uh, other than having that policy and then they send it to the NCAA each year, uh, to see if it’s meeting the conditions that the NCAA has, other than that I don’t know of anything that we have.”

D1CO9: Measure Concussion compliance? “I am...No, I am not aware.

D1CO10: Measure Concussion compliance? “Uh, our healthcare administrator, who is our head athletic trainer and senior Associate AD for Internal Operations, he analyzes that on an

annual basis. Our team physician, who works for REDACTED but is external to the Athletic Department, monitors the concussion protocol, and then actually the protocol itself, um, was written by our Senior Associate AD for Internal Operations, our team physician and an external reviewer that came in and took a look at our whole Sports Medicine Department. I believe two-and-a-half years ago now, so he was the one that kind of helped us write the policy so in that policy, uh, our healthcare administrator and our team doctor were responsible for looking at that on an annual basis and figuring out, you know, what needs to be updated to match what's the cutting edge in the field."

Theme number six: Division 1 senior compliance officers do not know of any consequences to violating the NCAA 2010 concussion policy. The following excerpts are the responses to the question, "What consequences could your institution suffer if found to be in violation of the NCAA concussion policy?"

D1CO1: Knowledge of consequences for concussion policy violations? "Not on my radar, not even close to being on my radar".

D1CO2: Knowledge of consequences for concussion policy violations? "I'm not sure that there... I'm not sure of any".

D1CO3: Knowledge of consequences for concussion policy violations? "From an NCAA standpoint? I don't know. Um. From just a general risk and liability standpoint, I think there would be subject to, to some, some challenges from, from a student athlete that had been injured. Anybody can sue anybody."

D1CO4: Knowledge of consequences for concussion policy violations? "I mean I'm sure there could be some legal action, you know. No, not so much. And again, hopefully it's just

because we have never (laugh) experienced it because we do it the right way? Um, so it's kinda maybe ignorance is bliss".

D1CO5: Knowledge of consequences for concussion policy violations? "You know, I don't know. I mean, I could totally look in, like you know, compliance people can me can go into a data base at the NCAA and see if anybody has ever broken a rule relative to, you know, the piece of legislation that's out there, you know, the concussion legislation, you know. We could type the bylaw in and see if anybody violated it. I've never done that because we've never had one. I mean, you could do that, or somebody, you know, somebody you know that's a... People can, you can just go in and say, "How many people have broken this rule" and the NCAA returns, you know, it's like a database, um, you know, of the last 20 years of keeping, it wouldn't even be that many since this rule, how many people have had a violation of bylaw you know 3.2.1-you-know, and you would be able, I think concussion-something in three so, you could put that in and see if it returns any violations. I suspect it would be minimal. I think they really look at this as a welfare thing that we should all be wanting to do this. We should all be, you know, you know, they don't wanna legislate morality, if you will (laugh). So, if we say we have a concussion plan, we probably better be following it, you know, because honestly there's more riding on it if a kid dies, it's gonna come out, whether they followed that plan, in my... The regular world that I run in, eligibility and academics, there might be a secondary violation but we're sure as shit not gonna be on the cover of *Sports Illustrated*."

D1CO6: Knowledge of consequences for concussion policy violations? "I'm not sure... The conference office I'm sure would be, uh, able to levy any financial penalty, uh, on a

respective school that was found to be out of compliance with their concussion management program. Um, I, I, I have not seen of any institution that's been subject, uh, to any sort of penalty, uh, in that regard so, uh, specifically what a conference or an NCAA, uh, entity might do is a good question. So, I don't have an answer for that one."

D1CO7: Knowledge of consequences for concussion policy violations? "Can't answer that either because I don't know well enough to know what the penalties would be, and I know we've never violated it so...I don't know."

D1CO8: Knowledge of consequences for concussion policy violations? "I do not know. I think it's like a recommended speed limit on the autobahn."

D1CO9: Knowledge of consequences for concussion policy violations? "I have not searched precedence for such a thing so I, and I've not ever had to report a violation of the concussion policy to the NCAA so I, I'm not in a position to be able to answer that. I don't know what the penalty would be."

D1CO10: Knowledge of consequences for concussion policy violations? "Well, you got two things that you're looking at from an NCAA perspective, um, they could smack you with a lack of institutional control, which is kind of their catchall when something large goes down that isn't in the best keeping of the legislation, and when you get hit with that lack of institutional control, um, that can go a lot of different places. They can go with fines, um. They can limit you from going to NCAA championships. They can basically give you a nudge-nudge that you need to make some changes in athletic training or with us coaching staff if the coaching staff was found to be pushing a student athlete to play with the concussion, and then the other part of this that is just as scary for an institution is you open yourself up to legal ramifications. Obviously if you have a protocol in place and

you're violating it and it's causing a student athlete to be put in danger, that student athlete could obviously sue the Athletic Department, the coach and the institution."

Theme number seven: There are barriers that exist to the NCAA determining specific consequences for violating the 2010 concussion management policy. The following excerpts are examples of responses to the question, "What possible barriers exist that prevent the NCAA from implementing consequences to the concussion policy?" I first described the quotes from Big 10 Commissioner Jim Delaney in response to the Shane Morris incident at the University of Michigan. In December of 2014, The Big Ten Conference announced revised concussion management guidelines that included penalties for non-compliance. The announcement came as a result of several publicly criticized violations of the policy including an incident where Michigan quarterback Shane Morris was put back in a game against Minnesota after suffering a vicious blow to the head that left him staggering and dazed (Solomon, 2014). In April of 2015, Jim Delaney, Commissioner of the Big Ten, announced that they had not installed penalties for violating the concussion protocol, and that the University of Michigan would not be penalized for the Shane Morris incident. He explained that "concussion penalties will evolve over time" (Solomon, 2015).

D1CO3: "Well, I mean with what with the (sigh) what would the consequence be? You know, like you're gonna suspend the athletic trainer? 'Cause that's who gonna get blamed for it. Or are you gonna make 'em pay a fine, are you gonna fire 'em right away? I mean, it's... You're getting into a like personnel issue and what the institution thinks is the right thing. And you know, I don't know that everybody necessarily knows the specifics. I mean if this comes from CBS Sports, like, CBS Sports doesn't know all the details of how this student got put back in the game. Did he show any symptoms? Did he, did they

do an impact test on him? Did they, you know, what... Coming from a compliance standpoint, there're so many questions that had needed to be answered before you get to that point. And how do you answer them. If you're an athletic trainer and you're making the best judgement with the information that you have at the time (pause) what're supposed to do? You know. If you are egregiously negligent then your institution probably should fire you or put on administrative leave. And make you do those things that you would with any other employee. I mean what would a physician do if they accidentally cut the wrong thing when they're in somebody in the surgeon, you know? So I just don't think that we've been doing this long enough and I don't think that we know enough to just automatically be like, well this is the penalty for that. In this situation, I heard of a situation where, you know, in wrestling there was a case of a coach, the student was symptomatic, told the coaches. There was no trainer in practice. Told the coaches. Supposedly the coaches didn't do anything and just told him to keep practicing. The kid continued to practice. Never went to the athletic training room. Said he was having symptoms but again didn't go to the physician, didn't go to the trainer and now blames the coaches for not so like where is the Responsibility? Yeah, I mean, (pause) is it on the coaches? A little, because they should've just stopped it there and said, "Get to the trainer." On the other hand, why didn't the kid go to the trainer? Like, or why didn't one of the teammates take the kid to the trainer, 'cause they also know what, you know, so it's just (pause) but if you're in a situation where the physician is there, the trainer is there, the coach is there, your head of sport medicine is there and the kid is there and nobody in that whole group of people do anything? Then (pause) obviously there's something that was broken there and maybe it was circumstantial but it doesn't sound

like it was something that was negligent to have eight people that are negligent in one big situation at an institution with an unlimited number of athletic trainers? That just seems a little silly to me.”

D1CO4: “Uh, yeah. I think, uh, that they put the onus on the institution, then if something happens and a legal standpoint they can continue to put the responsibility on the institution. Um, you know, right now I think it’s all trying to defray responsibility for something happening. They can say, hey, we’re giving you this policy. Now it’s your responsibility. Implement and follow it. Uh, and saying alright we’re backing off. If something, you know, like in the Michigan standpoint, now that the institution if they’re gonna try and sue the NCAA and Michigan, the NCAA can just say, hey, we told ‘em to create a policy. If they didn’t do it, that’s on them. I think it’s just kinda a hands off approach to avoid responsibility. I mean, you talked about consequences. Uh, you know from a compliance standpoint, us as compliance professionals we often talk about, um, the NCAA kind of being toothless with their penalties, um, until you hit an institution or an individual person like in their pocket, um, there won’t be any real change. I think it’ll be the same thing for this. Um, you know, you. I don’t know what the, if you’re not in compliance, you know, you have to, you know, a kid can’t practice for a few days. It’s not gonna make any sort of real change until, you know, they’re significant, significant penalties associated with it.”

D1CO6: “Yeah, well, yeah. There usually has to be a first there (laugh). That’s what I always say, people have to die at an intersection before they put a light in. People have accidents all the time and then when someone dies then they pay attention. That’s probably that kid, that story you just cited me, that 2004 Michigan kid was probably the, even though it

was after the policy, was probably ratchet up concerned. Something like that had to happen, you know? So that's why we all have to take our shoes off after September 11, so I don't mean to make stupid analogies, but something has to happen to, so clearly from 10 to 14 no one really gave a damn. What's, who's gonna do it? I mean, the point is, it's dirty work, we get stuck, the thing you, the example you gave me was one that was on TV... You know, another school in the state and it's on TV but it's blurry and you can't see that the kid was staggering or, you know, who from the Valley? Where the NCAA gonna put six people on every sideline from D3 to D1 and watch to see if anyone staggers. Whose gonna do that? I mean, you and I only saw that kid. I mean, it could have been, you know, 10 others. I mean, a friend of mine used to be on our football sideline and said you wouldn't believe the number of kids that come off. They don't stagger though but they're in trouble, you know what I mean? They get off the field looking fine. They know to. You can't, you can't penalize when you can't see it. And then prove it. I mean, you see what I mean? I mean, I could, we could have four violations a game, and I'm telling you that, it may not even get to where anybody could identify it. I mean, even me in my office with everything else I do, if I don't... I don't turn my cheek but if I see a record or a phone log where a coach made too many calls, we write it up. You know, it's a violation. But you have to find it. You have to see it. You have to tangibly be able to point it out, because you can't legislate laugh) the moral... You're not gonna have a trainer come in after a big football game and go, (deep breath)"Okay, the game's over and we lost and no I gotta call the NCAA and report that there were two kids that I let in the game before they cleared protocol." Who's gonna do that? No one's gonna self-report that they might have a crack on a kid that looked a little

wobbly, you know. And I do know, and because I've witnessed it, if I'm a coach or if I'm, they probably tell kids to not say things, you know. So I think that's why this will be very resistant to what the penalty is, when, you know. Now when there is, and there was in 2014, there should have been something, but then everybody else would go, Crap! You and I weren't there. I always tell people you don't know what you don't know. We just don't know."

D1CO9: "I think that dealing with the NCAA all these years, uh, I think that there are, there are some good rules, I mean there are some rules that have rationale behind it. Um, you know, they serve a purpose. Everybody understands 'em. Uh, there are some rules that are out there that I think the only rationale behind 'em is window dressing. You know, you want the public to think that, that we're doing the right thing here but when it comes down to it, there's really no teeth behind it and, uh, you know, like the basketball commission that's being widely publicized right now that Condoleezza Rice is overseeing and all those kinds of things. You know, there are things that they're coming out with for that, but, you know, as far as actually having teeth behind that, I'm not seeing that yet, so, I think that it's one of those things right now from where I'm viewing it, it's, you know, showing people that, Hey, we're doin' the right thing, where we have this commission. We appointed Condoleezza Rice, a very well-known, you know, person, in the public eye, a very respected individual that is overseeing this process, but actually behind the scenes, are we actually doing what we need to do in order to clean up the game of men's basketball? Not yet. I'm not seeing it. So, goin' back to your question. Um, you know, and so just my opinion, you know, maybe that's what happened with the concussion stuff. I do think that there are individuals that are

associated with the NCAA that legitimately care for student athletes and their wellbeing. I really do. But I also think there's some people that's just like, we need to have a policy in place to show people that we have a policy to try to negate the ill effects of a possible lawsuit. You know, and, and, and truthfully, to be honest with you, a lot of things that the NCAA is trying to do nowadays is to stay away from lawsuits, and uh. Hey, I get it. I mean, I understand completely. Do I think that it's necessarily the right kind of outlook to have on it? I don't, and I don't agree with it. I mean, if you're gonna do something, you're gonna put something in place, then you need to put it in place for the right reasons. Uh, you know, and I don't, I don't know if that's why they put in the concussion policy, but I, I do think that some of it had to deal with lawsuits and obviously that there was a lawsuit that was occurring at the time, which is still ongoing right now with the NCAA regarding concussions. Uh, I think they were trying to, uh, you know, tried to head it off at the pass, hopefully not have future lawsuits with that but by not having any kind of sanctions behind that, then that kind of backs up the fact that maybe they just put it in place for public viewing to make it look like we're doing the right thing."

D1CO10: I would say mainly, in my opinion, the reason that that hasn't happened is because it's, it's a moving target and it's a relatively new field and a relatively new issue. Um, the NCAA is not known for moving fast, um, on a whole lot of anything. They generally move pretty slowly and they're pretty conservative as it relates to their legislation. So I don't, I don't get the impression that it's anything nefarious. I think that it's an issue that they're still trying to wrap their heads around and they're having trouble doing so. The issue that you referenced is obviously, was obviously pretty blatant. I recall that game. The young man in question was stumbling around. You can clearly tell that there was

something wrong with him, so that was an obvious mistake. But at the same time you're gonna see a lot of situations, um, where a student can have a concussion and they're not presenting symptoms that are readily identifiable by athletic training staff, and you may not find out the student has a concussion until the next day or the day after when they complain of headaches or sensitivity to light or persistent stomachaches, things of that nature that are symptoms of concussions. So I think when you have, um, a relatively new issue and an issue that's got a lot to unpack, um, as it relates to concussions themselves, being that the symptoms do not show the same in different people, um, it can make it hard to come up with legislation and come up with a penalty structure that you can apply in such a way that's deemed equitable. So I think that, I think that has a big thing to do with it. Um, and I think, you know, when you look at the NFL, um, there was evidence that the NFL knew about issues with concussions and was choosing to act, and was choosing not to act. So I don't think that the NCAA falls into that category. I think it's more of a, they're still not quite sure how to unpack this issue and how to come up with a violation and a penalty structure that's equitable. That's my opinion.

As I delineated the data for this particular question, three sub-themes emerged. The most common barrier to consequences for violating the 2010 concussion policy from the Compliance Officer perspective was the ambiguity of who, within an institution is ultimately responsible or culpable when a violation is discovered. Is the athlete responsible? Or is it the Head Coach, Position Coach, Athletic Trainer, Team Physician, Compliance Officer, Medical Services Director, Athletic Director, or President that should be held accountable? The second most popular barrier to consequences for violating the 2010 concussion policy was a lack of precedent. Finally, the third most common barrier to consequences for violating the 2010

concussion policy was a deferment of liability. It was believed that if consequences are implemented it would expose the institutions, conferences, and the NCAA to additional liability if the policy wasn't strictly enforced.

Case Analysis

There was no evidence of profound differences in the responses to the questions from D1CO1-10, other than the size of the institutions from an enrollment and student athlete perspective. D1CO1-10 referenced the use of software as a method of measuring compliance in the areas of recruiting, financial aid, and eligibility. D1CO1-10 did not recall any difficulties or barriers with the installation of the 2010 NCAA policy on concussion management, and did not view the implementation as a compliance issue. D1CO1-10 all seemed to be surprised to hear the data indicating that as many as one quarter of all Division one schools were not in full compliance with the policy, particularly the delivery of concussion education to the student athletes (Baugh, 2017), and claimed they had no barriers to compliance with that particular aspect of the 2010 concussion policy. D1CO1-10 all stated that no American institution is perfect from a compliance standpoint, but compliance officers strive to minimize violations and work to employ best practices in following the NCAA policies.

Cross-Case Analysis

The singular outlier in the data set is D1CO10. D1CO10 is the only example of an institution that measures the degree to which they comply with the 2010 NCAA policy on concussion management. D1CO10 said:

Our healthcare administrator, who is our head athletic trainer and senior Associate AD for Internal Operations, he analyzes that on an annual basis. Our team physician, who works for REDACTED but is external to the Athletic Department, monitors the

concussion protocol, and then actually the protocol itself, um, was written by our Senior Associate AD for Internal Operations, our team physician and an external reviewer that came in and took a look at our whole Sports Medicine Department. I believe two-and-a-half years ago now, so he was the one that kind of helped us write the policy so in that policy, uh, our healthcare administrator and our team doctor were responsible for looking at that on an annual basis and figuring out, you know, what needs to be updated to match what's the cutting edge in the field.

Another area of separation from the rest of the data set for D1CO10 was knowledge of consequences for violating the 2010 NCAA policy on concussion management. D1CO10 said:

Well, you got two things that you're looking at from an NCAA perspective, um, they could smack you with a lack of institutional control, which is kind of their catchall when something large goes down that isn't in the best keeping of the legislation, and when you get hit with that lack of institutional control, um, that can go a lot of different places. They can go with fines, um. They can limit you from going to NCAA championships. They can basically give you a nudge-nudge that you need to make some changes in athletic training or with us coaching staff if the coaching staff was found to be pushing a student athlete to play with the concussion, and then the other part of this that is just as scary for an institution is you open yourself up to legal ramifications. Obviously if you have a protocol in place and you're violating it and it's causing a student athlete to be put in danger, that student athlete could obviously sue the Athletic Department, the coach and the institution."

An additional feature of D1CO10 that makes it a unique case is their use of a committee to discuss compliance from a university-wide perspective. D1CO1 said:

“I audit us, uh, on a very regular basis, and we actually had an external, um, reviewer come in last year and look at our entire Compliance Department and he offered suggestions. There weren’t a whole lot of suggestions that he offered, um. Thankfully we were run a pretty tight ship. So he came in and reviewed us about 10 months ago and gave us a pretty much of a clean bill of health, but we’re always looking at new ways to do things. We have a committee on campus, um, that covers a lot of the things that Compliance touches and that committee is composed of Academics, Admissions, Financial Aid, Registrars, Billing and myself. Um, and we talk about hot topics and figure out ways we can streamline items and I make sure that those individuals are up to date on the cutting edge in the Compliance field so they know the legislation that’s new, existing and what’s coming down the pipeline. So that’s what we do to try and make sure we stay on the front end of things, communicate, um, and make sure we’re doing things the right way.

Finally, D1CO10 was the only case that had earned a Juris Doctorate, and had the lowest number of years’ experience in the data set (four).

Summary

The most effective way to summarize and explain the data collected and the emerging themes is to analyze the testimony of the Division I compliance commissioner (D1CC1). When asked if schools that are members of the D1CC1’s conference file reports to the conference or to the NCAA regarding concussion management, D1CC1 responded,

The protocol is in our book, is part of our constitution. When I say book, I mean the NCAA manual that includes the bylaws, um. Then that’s not followed... There hasn’t actually been a situation that that hasn’t been followed. It’s an autonomous piece of

legislation that I believe everyone outside the autonomy has opted into, which is why they were in Indy last week to review all those so our institutions will turn them in. The committee reviews them, tells them what's missing, what's not missing, sends it back and then the institution has another year to try and fix it and turn it back in. Once it's cleared, the NCAA approves it and puts it on their list of who's been approve, who hasn't been approved."

When asked if there were reports filed by the schools in D1CC1's conference as to the degree to which the 2010, NCAA policy on concussion management is followed or complied with, D1CC1 responded, "In terms of someone not following what their protocol is? That hasn't occurred yet but there is an NCAA issue, there is definitely a legal issue beyond that but because there actually hasn't been case precedent for that yet for the NCAA new policy or new bylaw. "When asked if there were published consequences for violation of the NCAA policy on concussion management, D1CC1 responded, "With the 2010 policy, no."

When asked if there are published consequences for violating the NCAA policy on recruiting, eligibility, and financial aid, and what possible consequences could be imposed on an institution that violates the NCAA policies in those areas, D1CC1 replied, "Yes, and again, that depends on the violation. It can vary from a, you know a slap on the wrist, here's a letter of education and model to more dire than that and get to suspension level, so it just really depends on what the violation is and how many times that violation has occurred with whoever is involved."

Assimilation of the themes combined with the insight provided by D1CC1 gives clarity to the current framework that institutions of higher education are practicing as members of the NCAA. Division 1 schools file reports to the NCAA regarding compliance of recruiting,

eligibility, and financial aid. Division I schools are employing the use of an instrument, device or method that measures the degree to which they are compliant in those areas. Division I schools are aware of specific consequences that could be imposed on their institutions if found to be in violation of the NCAA's policies in those particular areas of compliance.

Division 1 schools submit their concussion protocol to the NCAA, but are not required to submit additional reports that evaluate the degree to which they are following the policy. Division I schools do not employ methods, instruments, or procedures that measure the degree to which they follow their concussion policy. And finally, Division I schools are not aware of any consequences for violating the 2010 NCAA policy on concussion management, because there aren't any.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMENDATIONS FOR FUTURE RESEARCH

Summary

Concussion management in athletics is in a time of profound and historical transition. After one hundred and five years of existence, the NCAA installed the 2010, policy on concussion management in response to the construction of concussion management as a social problem. A culture of poor concussion management, or a lack of concussion management altogether, in athletics has contributed to the social construction of concussion management as an issue that warrants research and reform. Research has revealed the devastating effects of sub-standard concussion management in athletics (Randolph, 2009), which has led to a growing number of lawsuits naming the NCAA as the defendant, claiming that the governing body that provides oversight to collegiate athletics failed to take appropriate action to protect the health and safety of the athletes.

The evolution of concussions as a social problem has emerged because of discovery and changing social values. Like smoking, concussions were never of great concern in large part because there was no research to suggest that they should be. Of the few studies that have been published that focus on collegiate-level concussion management, significant variability has been shown to exist from one institution to another. Some institutions have been found to be in complete compliance, others are missing key components of the NCAA protocol, and surprisingly, some institutions lack a concussion management plan altogether (Baugh, 2016). All the reviewed studies regarding compliance with the 2010 policy concluded by recommending that more research is needed to identify barriers to a higher frequency and quality of concussion

management compliance. Scientific discovery in the area of concussion management is still in its relative infancy, requiring an ongoing and growing body of research. It was the overarching goal of this study to contribute to that research by examining administrative barriers to compliance with the 2010 NCAA policy on concussion management by evaluating the opinions and experiences of compliance officers, who are ultimately responsible for compliance with NCAA policies.

Purpose of the Study

The purpose of this study was to analyze the perceptions and experiences of collegiate compliance officers regarding the NCAA protocol for concussion management. Specifically, this study investigated what barriers exist that prevent full compliance with the NCAA policy, how the NCAA compliance officers describe the process of adapting to the NCAA protocol, instruments and methods used by compliance officers to measure school compliance, and their views of its efficacy and consequences of non-compliance.

Significance of the Study

Scientific evidence has shown the seriousness of the long- and short- term effects of sport-related concussion. As the governing body for collegiate athletics, the National Collegiate Athletics Association (NCAA) did not have a policy for concussion management and return-to play-guidelines until 2010. Although the 2010, policy was a step in the right direction, it left a significant portion of the policy to be decided on by individual schools. The National Athletic Trainers Association (NATA) athletic trainers, who had previously been following the NATA policy on concussion management, would now be charged with implementing the new NCAA policy. The protocol implemented in 2010, outlined some of the basic components that the schools' concussion management plans should include. The basic components included a

requirement that any athlete who shows signs, symptoms, or behavior consistent with a concussion be removed from activity and evaluated by a health care professional (Baugh, 2014). It also required that if the athlete was diagnosed with a concussion they not be allowed to resume sports activity until they had received medical clearance from the team physician or another designated health care professional. Students must also complete an educational seminar each year to learn about the signs and symptoms of concussions and understand their responsibility to report symptoms to the medical staff. Studies have shown that there was, and still is, a significant lack of consistency in implementation of and compliance with the NCAA protocol, particularly in the educational aspects of the protocol (Baugh, 2016).

Research Questions

Overarching question:

How are compliance officers charged with concussion management and return-to-play guidelines in collegiate athletics interpreting and adapting to the NCAA protocol, how do they measure compliance with the policy, and how do they interpret the consequences of non-compliance?

Sub-questions:

1. What areas of compliance are NCAA Division 1 compliance officers most concerned with?
2. Does your institution have instruments, methods, or procedures to measure compliance?
3. Does your institution file compliance reports to the NCAA?
4. What do you understand the consequences of non-compliance to be?
5. What challenges have compliance officers faced in the installation and ongoing management of the 2010 NCAA concussion protocol?

6. What are the principal barriers that prevent full compliance with the NCAA policy on concussion management?

Methodology

This study used a general qualitative design, with a pragmatic worldview. A review of the literature exposed the lack of continuity in the compliance with the NCAA protocol implemented in 2010. Many of the studies that have been conducted that examine compliance have shown that the education of athletes of concussion signs and symptoms is the most frequently neglected or missing from collegiate concussion management protocol (Baugh, 2016). This discovery is evidence that there may be problems or obstacles that collegiate athletic programs face when implementing the NCAA protocol. To better understand the possible problems or obstacles, so improvements can be made in the delivery of concussion education to college athletes, a pragmatic approach was most effective. The information collected through multiple case studies provided insight into how the new NCAA concussion management policy, procedures, and protocols are being implemented and determine both the common and unique issues that are influencing the institutions' degree of compliance with the 2010 NCAA policy. The pragmatic approach to this general qualitative study also revealed how the new policy and protocols are understood by compliance officers, thus contributing to the knowledge of what works in the process of compliance with the 2010, NCAA policy (Creswell, 2013) and, subsequently, what doesn't work.

Themes Extracted from Data

Based on the data collected for this study, the following themes emerged:

1. Division 1 compliance officers are mostly concerned with the eligibility, recruiting, and financial aid aspects of compliance.

2. Division 1 colleges and universities generally have instruments, methods, or procedures that measure compliance in the areas of eligibility, recruiting, and financial aid.
3. Division 1 colleges and universities report to the NCAA if violations have occurred in the areas of eligibility, recruiting, and financial aid.
4. Division 1 compliance officers are aware of specific consequences that their institution may face if violations occur in the areas of eligibility, recruiting, and financial aid.
5. Division 1 colleges and universities do not use instruments, methods, or procedures to measure compliance with the NCAA 2010 concussion policy.
6. Division 1 senior compliance officers do not know of any consequences to violating the NCAA 2010 concussion policy.
7. There are barriers that exist to the NCAA determining specific consequences for violating the 2010 concussion management policy.

Assimilation of the themes combined with the insight provided by D1CC1 (compliance commissioner) gives clarity to the current framework that institutions of higher education are practicing as members of the NCAA. Division I schools file reports to the NCAA regarding compliance of recruiting, eligibility, and financial aid. Division 1 schools are employing the use of an instrument, device or method that measures the degree to which they are compliant in those areas. Division 1 schools are aware of specific consequences that could be imposed on their institutions if found to be in violation of the NCAA's policies in those particular areas of compliance.

Division 1 schools submit their concussion protocol to the NCAA, but do not submit additional reports that evaluate the degree to which they are following the policy. Division 1 schools do not employ methods, instruments, or procedures that measure the degree to which they follow their concussion policy. And finally, Division I schools are not aware of any

consequences for violating the 2010 NCAA policy on concussion management, because there aren't any.

Conclusions

This study offers suggestive evidence that Division I compliance officers and the institutions that they represent are consequence-driven in the context of compliance with NCAA policies. One hundred percent of the subjects interviewed measured the degree to which their institutions complied with NCAA policies in the areas of recruiting, eligibility, and financial aid. 100% of the subjects interviewed reported (to the NCAA) the degree to which their institutions complied with NCAA policies in the areas of recruiting, eligibility, and financial aid. One hundred percent of the subjects interviewed were aware of specific penalties/consequences that their institutions could face if it was found to be in violation of NCAA policies in the areas of recruiting, eligibility, and financial aid. Conversely, only one of the subjects interviewed measured the degree to which their institution complied with the 2010 NCAA concussion policy. Only one of the subjects interviewed reported (to the NCAA) the degree to which their institution complied with the 2010, NCAA concussion policy. Only one of the subjects interviewed was aware of specific penalties/consequences that their institution could face if found to be in violation of the 2010, NCAA concussion policy. Perhaps the lack of attention to concussion compliance is because the NCAA policy on concussion management is actually just a recommendation, and institutions of higher education are considered to be in compliance with the policy if they have a concussion management plan. The degree to which the policy is followed is of no consequence.

The claim that Division 1 compliance officers and the institutions that they represent are consequence-driven is further supported by the data regarding the areas of compliance that are of

greatest concern. One hundred percent answered to one or all areas of concern being recruiting, eligibility, and financial aid. None of the subjects mentioned concussion management when asked to name the areas of compliance that are of greatest concern.

This study supports the argument that a lack of specific consequences published by the NCAA for violation of the 2010, concussion policy is a major barrier to compliance with that particular policy. In addition to the clear pattern of compliance officers measuring, reporting, and being aware of consequences for violations of NCAA financial aid, eligibility, and recruiting policies, and conversely not measuring, reporting, or being aware of consequences for violating the NCAA concussion policy, there is a public record of deviance that supports this claim. In December of 2014, The Big Ten Conference announced revised concussion management guidelines that included penalties for non-compliance. The announcement came as a result of several publicly criticized violations of the policy including an incident where Michigan quarterback Shane Morris was put back in a game against Minnesota after suffering a vicious blow to the head that left him staggering and dazed (Solomon, 2014). In April of 2015, Jim Delaney, Commissioner of the Big Ten, announced that they had not installed penalties for violating the concussion protocol, and that the University of Michigan would not be penalized for the Shane Morris incident. He explained that “concussion penalties will evolve over time” (Solomon, 2015). The NCAA concussion policy as it is written is nothing more than a recommendation. The NCAA member schools are not required to comply with the policy, only to have one. If the NCAA were to install a consequence to violation of the concussion policy, it would no longer be a mere recommendation, but a mandate. A mandate is a rule that is intended to result in compliance (McDonnell, 1987).

Assignment of blame for violating the NCAA concussion policy is a barrier to consequences being established, and subsequently, compliance with the policy. Seventy percent of the subjects identified ambiguity in assignment of blame for violation of the concussion policy as a barrier. The general question is, who's to blame? Is it the responsibility of the player to report symptoms? Is it the responsibility of the athletic trainer, head coach, position coach, coordinator, team physician, strength and conditioning coach, independent neurologist to athletics, the compliance officer, chief medical supervisor, athletic director, or president for not taking action when a player is suspected of suffering a concussion? The same argument could be made for numerous examples of Normalization of Deviance within institutions of higher education. Who should be blamed for the sexual abuse that was allowed to occur for decades with Jerry Sandusky at Penn State University or Larry Nasser at Michigan State University? While clearly that example is extreme and can't be compared to concussion management in athletics, ultimately the institutions were held responsible. To properly manage concussions in collegiate athletics a collaboration of efforts from the athletes, athletic trainers, coaches, medical personnel, and a supportive administration is required, but when violations occur, perhaps responsibility can be assigned, as it is with other NCAA violations, to the institution itself.

Recommendations for Future Research

It is clear that there are many barriers to compliance with the 2010, NCAA policy on concussion management. Institutions of higher education have made progress towards improvement of concussion management practices, but improvement is still needed. Research has provided evidence that the principle component of the 2010, NCAA concussion policy that is not being met is the education of the athletes as to the risks and warning signs of concussion, in addition to their responsibility to report symptoms (Baugh, 2016). The NCAA policy on

concussion management does not provide recommendations as to how the education should be delivered to the student athletes. Further research is needed to examine how institutions of higher education are failing in the area of concussion education, and what methods can be installed that will improve the quality of concussion education.

Additional research is needed into the motivations of institutions of higher education to comply with policies administered by governing bodies. This study suggests that consequences, particularly avoidance of consequences, are a major motivational factor in the development of institutions' policies for athletic compliance. Additional research examining the motivations of athletic departments in higher education when making policy can potentially further support the need for consequences to be installed by the NCAA for violation of its concussion policy.

Athletic departments in higher education would benefit from additional research that examines what procedures, methods, and instruments are most effective for policy evaluation. 100% of the sample from this study claimed to use methods, procedures, and instruments to evaluate compliance in the areas of financial aid, recruiting, and eligibility. An investigation into how those instruments, methods, and procedures can be applied to concussion management auditing can perhaps advance institutions of higher education one step further towards improved compliance with the NCAA concussion policy, ultimately minimizing the risks of student athletes suffering the potentially devastating effects of concussion.

Research that examines how the NCAA creates policies, and in particular, determines consequences for violation of those policies, can perhaps advance the basis or justification for the need for consequences to violations of the NCAA concussion policy to be implemented. With all of the litigation that the NCAA is facing regarding negligence in protecting college

athletes, empirical data can potentially be a motivational factor that ultimately results in consequences for concussion policy violations being implemented.

Finally, it could be useful to conduct research that investigates the higher education organizational structure, particularly the role of athletics in higher education. Because most institutions of higher education have a model of shared governance including a board of trustees/regents, a president and his/her administration, and a faculty, an investigation of how athletics can be transitioned into the model of shared governance could perhaps improve policy adherence in athletics. Institutions of higher education are held to the highest standards of excellence in regards to accreditation, but not necessarily in other areas such as athletics. If the provost and the athletic director both report to the president, why are they not held to the same standards of compliance?

Final Thoughts

The benefits of participation in athletics are countless and beyond measure. It cannot be argued that athletes have been shown to have an increased likelihood of possessing traits such as discipline, self-confidence, team concept, healthy sense of competition, and striving for excellence. Unfortunately, contact sports also include risk of injury, some of which can leave the athlete with life-long disabilities or worse. With youth comes a sense of invincibility, which can overshadow rational thinking in regards to injury and physical limitations. It also comes with a lack of wisdom and thinking about the long-term implications of concussion. It is the responsibility of the athlete to self-advocate, but it is also the responsibility of the institutions benefiting from their talent to be vigilant in their efforts to protect the health of the athlete. As our understanding of the adverse effects of concussion grows, the urgency to prevent concussion will intensify.

We all take risks in life, but we should be aware of the risks so we can determine for ourselves if we are willing to take those risks. Student athletes should have all of the pertinent information when they decide to be honest with their trainers, doctors, parents, and coaches regarding symptoms that result from a head injury. That information will undoubtedly contribute to the decision to even play contact sports, or to a parent's decision to allow their child to play contact sports. The combination of the scholarly research conducted in the area of concussions and concussion management, with the press resulting from the NFL cover-up, have brought the significance of concussion to the mainstream. Mike Webster, from the grave, is as responsible as anyone for bringing the significance of concussion to the public eye.

Though significant reform has occurred in recent years at the high school and professional levels, college is lagging behind. There are many inputs and outputs that effect concussion management at the college level. The revenue generated by many Division I colleges creates pressure to keep the best players on the field, regardless of the risks. Pressure to keep the best athletes on the field exists even for the football programs that don't generate a significant amount of revenue. Football is often credited with being the most effective tool to stay connected with alumni and revenue-generating corporate sponsors. Athletes attending college via scholarship feel pressure to play regardless of concussion symptoms due to fear of losing their financial aid. Unilateral reform is the most logical approach to concussion management in the NCAA. Programs are apprehensive to sit their best athletes because the financial stakes are too high. If your opponent has a substandard concussion management protocol, and are putting their best players on the field in spite of being concussed, they will have an unfair advantage.

This study contributed to the body of research that asks what barriers exist that prevent compliance with the 2010, NCAA concussion policy, and how concussion management in

collegiate athletics can be improved by uncovering the perspective of the compliance officers, who are directly responsible with compliance oversight in their institutions. The themes and conclusions extracted from this study support the theory that concussion management in collegiate athletics has been lacking or substandard because of a culture of deviance. There has never been adequate oversight into concussion management and there has never been a catalyst for change, until now. Legislation such as the Lystedt Law, in addition to an effective compliance policy and stiff penalties for violation, is the only viable solution to the advancement of concussion management in the NCAA.

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Appendix
HSIRB Approval

WESTERN MICHIGAN UNIVERSITY



Institutional Review Board
FWA00007042
IRB00000254

Date: March 28, 2018

To: Nancy Mansberger, Principal Investigator
Tyler Norman, Student Investigator for Dissertation

From: Amy Naugle, Ph.D., Chair

Re: Approval not needed for HSIRB Project Number 18-03-20

This letter will serve as confirmation that your project titled "Administrative Barriers to Compliance with the 2010 NCAA Policy on Concussion Management" has been reviewed by the Western Michigan University Institutional Review Board (WMU IRB). Based on that review, the WMU IRB has determined that approval is not required for you to conduct this project because you are not collecting personal identifiable (private) information about individual and your scope of work does not meet the Federal definition of human subject.

45 CFR 46.102 (f) Human Subject

(f) *Human subject* means a living individual **about whom** an investigator (whether professional or student) conducting research obtains

- (1) Data through intervention or interaction with the individual, or
- (2) Identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes. *Interaction* includes communication or interpersonal contact between investigator and subject. *Private information* includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

"About whom" – a human subject research project requires the data received from the living individual to be about the person.

Thank you for your concerns about protecting the rights and welfare of human subjects.

A copy of your protocol and a copy of this letter will be maintained in the HSIRB files.

Office of the Vice President for Research
Research Compliance Office
1903 W. Michigan Ave., Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293 FAX: (269) 387-8276
WEBSITE: wmich.edu/research/compliance/hsirb

CAMPUS SITE: 251 W. Walwood Hall