THE CULTURE OF RISK, PAIN, AND INJURY AMONG CERTIFIED ATHLETIC TRAINERS

by

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ABSTRACT

THE CULTURE OF RISK, PAIN, AND INJURY AMONG CERTIFIED ATHLETIC TRAINERS

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INTRODUCTION: Athletes who participate in sport experience the risk of pain and injury. In today's sports culture, playing with pain and injury has been normalized, which can leave athletes with severe chronic injury, incessant pain, and potential irreversible damage. Certified athletic trainers (ATCs) uphold a professional responsibility to manage injuries and care for the health of athletes under their attention. According to Nixon (1992), ATCs are members of a social network found in sport, called a "sportsnet." Nixon has blamed sportsnet members, including ATCs, for the normalization of injury in sport - a charge that contradicts ATCs' standards of practice and creates ethical concern within the profession. Although previous research has evaluated how athletic training students, Canadian sports medicine clinicians, and doctors and physiotherapists from the United Kingdom affect and are affected by the culture of risk, pain, and injury in sport, little research has focused upon ATCs working within intercollegiate sports in the United States. **PURPOSE:** The purpose of this study was to evaluate the current perceptions of pain, risk, and injury held by ATCs and to discover how those perceptions affect ATCs' decisions regarding injuries. **PARTICIPANTS:** Participants included 80 Board of Certification certified athletic trainers with at least five years of working experience in a NCAA Division I athletic department. **METHOD:** Participants took an anonymous open-ended questionnaire on Qualtrics, an online survey software. **DATA ANALYSIS:** Data was highlighted and sorted based upon common themes that addressed perceptions and influence of the culture of risk, pain, and injury in sport on ATCs. **RESULTS:** Athletic trainers believed that athletes should expect playing with pain and injury. Over half (52.46%) of athletic trainers reported experiencing sportsnet pressure from coaches when managing athlete pain and injury. When making return-to-play decisions, time of the sports season was the biggest situational factor that affected an athletic trainer's decision. Despite expecting pain and injury, athletic trainers expressed the importance of preventing additional harm and maintaining patient health and safety. **CONCLUSION:** The results of this study contribute to a further understanding of the culture of risk, pain, and injury in sport, the profession of athletic training, and the nature of NCAA Division I collegiate athletic training environments.

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LIST OF ABBREVIATIONS

ATC	Certified Athletic Trainer
BOC	Board of Certification
NATA	National Athletic Trainers' Association

CHAPTER I: INTRODUCTION

Sports and injury go hand in hand. Contact sports do not exist without traumatic acute injuries and non-contact sports are not without gradual onset chronic injuries (Walk, 1997). The fact that sport and injury must inevitably coexist with one another is a reason why the profession of athletic training exists (Walk, 1997). Certified athletic trainers (ATCs) are recognized by the American Medical Association as health care professionals who are educated in the prevention, recognition, evaluation, care management, and rehabilitation of athletic injuries (American Medical Association, 2010). To receive the credential of ATC, an individual must have successfully passed the national certifying examination administered by the Board of Certification (BOC). Once certified, all athletic trainers are held to the BOC's *Standards of Professional Practice*. Some of the standards certified athletic trainers are mandated to uphold include responsibility to the profession, patients, and society (Board of Certification, 2006). Certified athletic trainers can be found working within orthopedic clinics, military, and industrial settings, as well as at the high school, collegiate, and professional sports levels. Sports sociologists have argued that at these latter levels of sport, a culture of athletes who accept physical risk has developed (Charlesworth & Young, 2004; Malcom, 2006; Nixon, 1993; Roderick, 2004).

Taking risks in sport can occur economically (e.g., financial risks with betting), socially (e.g., risking reputations), or physically (e.g., risk of death, injury, pain)

(Donnelly, 2004). The culture of risk that athletic trainers are faced with daily has to do with the physical risks athletes take under their care. The consequences of this culture, which rationalizes playing with pain and injury, can leave athletes with severe chronic injury, incessant pain, and sometimes, irreversible damage (Nixon, 1992). At the center of this culture lies the professional responsibility of the certified athletic trainer to manage injuries and care for the health of athletes under their attention. However, Nixon has placed part of the blame for normalization of risk and injury in sport on sports medicine personnel, which includes athletic trainers – a charge that contradicts certified athletic trainers standards of practice and creates ethical concerns within the practice.

The culture of risk, pain, and injury in sport has been studied in depth by sociologist Howard L. Nixon (1992; 1993; 1994; 1996; 2004). His research has been motivated by a need to comprehend the social and cultural reasons athletes are willing to endure pain and injury in sport (Nixon, 2004). In one of Nixon's articles (1992), he discussed the concept of the "sportsnet," which links together the individual members of a sporting community. Members of these sportsnets share certain cultural values, including the acceptance of physical risk in sport. Nixon (1992) established that a sportsnet may be comprised of athletes, coaches, athletic administrators, and sports medicine personnel (e.g., athletic trainers, doctors, physical therapists). He described how athletes do not look for solutions to their pain and injury outside of their sportsnets, because other members of the sportsnet present them with "cultural and interpersonal messages rationalizing pain and injury," (p. 133) such as the saying "no pain, no gain." He continues to write that sportsnet members "conspire" (p. 133) to reinforce a culture of pain and injury in sport, by obstructing those who may disagree with the normalization of

risks taken with participation in sport. In a sense, Nixon suggested that sportsnet members place the short-term goals of institutional success (e.g., winning) high above the long-term health and welfare of athletes.

To solidify his argument that sportsnets generate a normalization of pain, Nixon delved further into the culture of pain and injury in sport by looking at both coaches' (1994) and athletes' (1996) views and attitudes towards the culture. In both studies, the same survey was administered to subject groups. Responses to statements concerning pain and injury in sport showed a majority of athletes conveyed that they were willing to play hurt (Nixon, 1996), and that coaches demonstrated prevalent support for the culture (Nixon, 1994). However, in his study with coaches, Nixon found that although coaches supported the culture, they also indicated that they expressed care and concern for athletes and their injuries, a conclusion that shows the contradictory nature of pain and injury in sport.

Limited studies dealing with the culture of risk, pain, and injury in sports have focused on sports medicine practices at the intercollegiate (Safai, 2004; Walk, 1997) and professional (Malcolm, 2006; Waddington, 2006) levels of sport. Walk's study (1997) addressed the role student athletic trainers played within a sportsnet at a Division I university. The study found that athletes were playing with pain and injury, not because athletic training students' allowed them to compete, but injured athletes participated because of pressure by the university's coaches, as well as choices athletes made on their own. Walk also noted that athletes sometimes defied advice from the university's medical staff by returning to play as advised by health practitioners who were *not* part of the university's sportsnet. The pressures from coaches and defiance by athletes left

athletic training students torn between protecting the health of student-athletes and contributing to the normalization of playing with pain and injury in sport, a conflict that challenges the principles of athletic training. The battle between preserving the welfare of the athlete and maintaining the interests of the sports institution has also been experienced by intercollegiate sports medicine clinicians in Canada and by doctors and physiotherapists who work within professional rugby and soccer clubs in the United Kingdom (Malcolm, 2006; Safai, 2004; Waddington, 2006).

While research provides us with an idea of how sports medicine clinicians *affect* and are *affected by* the culture of risk, pain, and injury in sport, more in-depth research is needed on the topic. The results of Nixon's 1994 and 1996 studies give support to common beliefs held within sportsnets on the culture of risk, pain, and injury in sport; however, Nixon's research has two faults. First, a questionnaire methodology asking closed-ended questions only allowed participants to *indicate* what they did or believed (Thomas, Nelson, & Silverman, 2005). Nixon's thirty-one item questionnaire only allowed participants to indicate, on a scale of one to four, whether they agreed or disagreed with statements related to the acceptance of pain and injury in sport. As a result of the limited questionnaire, Nixon's research is missing more thorough explanations of how sportsnet members are affected by the culture of pain, risk, and injury. A qualitative approach, such as the use of open-ended questions, would help allow participants to expand upon their practices and beliefs.

The second shortcoming in Nixon's research was that it did not focus on perceptions of risk, pain, and injury in sport held by sports medicine personnel or certified athletic trainers who are central figures in the management of athletic injuries

and pain. Although limited studies have begun to look at these populations (e.g., athletic training students, sports medicine clinicians within foreign sports leagues), little research specifically examines intercollegiate certified athletic trainers within the United States, which is the focus of this study.

Purpose

The purpose of the present study was to evaluate the current perceptions of pain, risk, and injury held by BOC certified athletic trainers who work in collegiate sports in the United States. Although overlooked in the past, certified athletic trainers' perceptions must be evaluated, because athletic trainers play an integral role in the health and welfare of athletes. Because of this role, it is imperative to understand how an athletic trainer works within a sportsnet that contributes to a culture of risk that defies their ethics.

The Board of Certification creates and implements the profession's *Standards of Professional Practice* (2006). The second section of this document focuses on the professional responsibility of certified athletic trainers and includes guidelines related to patient responsibility. One such statement reads, "The Athletic Trainer… protects the patient from harm, acts always in the patient's best interests and is an advocate for the patient's welfare" (p. 3). Nixon's accusation (1992) that sports medicine personnel contribute to the undermining of athletes' pain and injury challenges certified athletic trainers' standards of professional practice. According to Nixon's theory that sportsnet members normalize pain and injury in sport – which has the potential to lead to serious physical issues for athletes in the long term – it would seem as though athletic trainers *do not* have athletes' best interests in mind, therefore creating ethical concerns within the practice of athletic training.

Significance of Study

As seen in studies conducted with medical doctors and physiotherapists in the United Kingdom (Malcolm, 2006; Waddington, 2006) and with athletic training students in the U.S. (Walk, 1997), pressure from other sportsnet members may push sports medicine clinicians to make unethical decisions about the welfare of athletes. The current study is significant because if certified athletic trainers in the U.S. also experience the same pressure as other sports medicine clinicians, and these pressures influence their perceptions of pain and injury in sports, thereby affecting their decision making, the ethical integrity of the athletic training profession could be in jeopardy. For certified athletic trainers to reclaim their professional principles, a recognition and awareness of what affects athletic trainers' pain and injury perceptions needed to be examined.

Delimitations

Although this study specifically addressed certified athletic trainers, it is important to note that there are a variety of sports medicine clinicians who partake in the healthcare of athletes. By restricting this study to only certified athletic trainers, other practitioners (e.g., physicians, surgeons, physical therapists) meshed within the same sportsnet as the certified athletic trainer were overlooked, even though they also have the potential to make return-to-play decisions for injured athletes.

Limitations

Participating certified athletic trainers might have been hesitant to express their true opinions on the culture of pain and injury in sport in order to maintain their self-image and professional status. In Nixon's study on coaches (1994), he recognized that

subjects might have employed caution in their questionnaire responses. Since there can be bad exposure surrounding the support for athletes to partake in sport while hurt, coaches may have reflected upon idealistic answers in order to preserve their self-image to the public. Nixon's limitation may also be mirrored within the current study.

CHAPTER II: LITERATURE REVIEW

Pain and injury are risks athletes actively assume with their participation in sport (Donnelly, 2004). This fact has been described as a paradox, in that although the various health benefits of sport and physical activity have been broadly defined, there remains a vague description of the long-term effects of sports injury, such as chronic pain and/or disability (Sabo, 2004). With the risk of debilitating effects of injury, it is curious that athletes may continue to partake in sport when faced with injury; or perhaps even more peculiar, why coaches and sports medicine personnel allow them to play injured. In the case of sports medicine personnel (e.g., certified athletic trainers), it is imperative to understand what may influence these kinds of decisions, especially considering the ethical issues that can arise when allowing athletes to play while injured (Lurie, 2006; Waddington, 2006). The structure of sports organizations and how it can foster an acceptance of pain and injury by the people involved in the sports network must be looked at in order to further understand these ethical issues.

The Sportsnet

Sociologist Howard L. Nixon is one of the biggest contributors to the field of research on the factors that influence the risk, pain, and injury culture in sport. His research has focused on what social and organizational influences help to nurture the acceptance of pain and injury in sport (Nixon, 1992, 1993, 1994, 1996). In one of his earliest studies (1992), Nixon used a structural social network analysis to explain the

acceptance of playing with pain and injury in sport. He referenced Berkowitz (1982) when defining a social network as "a set of relations among persons, positions, roles, or social units" (Nixon, 1992, p. 128). The term "sportsnet" was used by Nixon to describe the mesh of relationships between members of sport and sport organizations. Athletes, coaches, athletic administrators, management, and sports medicine personnel are among the members of a sportsnet whose communication exchanges normalize the risk for injury that athletes experience in sport.

Nixon (1992) blamed athletes' likeliness to accept pain and injury in sport on sportsnets, due to the fact most athletes seek social support from other members in the sportsnet who all share the same bias about acceptance of pain and injury. This environment can make it more difficult for athletes to seek support outside of the sportsnet, therefore, nurturing their tolerance to play despite the risk of pain and injury. Nixon created the idea of a conspiracy between coaches, management, and sports medicine personnel to prevent those who question the culture of pain and injury in sport from infiltrating the sportsnet. To sum up the analysis, he stated, "Sportsnets are structured to rationalize risk and minimize consideration of pain and injuries" (p.133).

The social network analysis formed by Nixon gives insight to how the structure of sports organizations can influence sportsnet members, specifically athletes, into accepting pain and injury in sport. Playing off of this influence, Nixon and other researchers have studied how the culture affects different groups of sportsnet members. This body of research addressed the questions of what specifically influences athletes to play injured (Charlesworth & Young, 2004; Nixon, 1993; Roderick, Waddington, & Parker, 2000), how coaches perceive the culture and what inclines them to play an injured athlete

(Nixon, 1994; Flint & Weiss, 1992), and how sports medicine personnel may be swayed to make questionable decisions, such as allowing an injured athlete to return-to-play prematurely (Waddington, 2006; Safai, 2004; Walk, 1997). These three areas must be reviewed in order to understand how certified athletic trainers in the United States are affected by the culture of risk, pain, and injury in sport.

Athletes

To understand why athletes accept playing with pain and injury, Nixon (1993) performed a content analysis on 44 *Sports Illustrated* articles that discussed pain and injury in college and professional sports in the United States. He identified various themes throughout the articles that led him to the conclusion that athletes were faced with a set of beliefs in our culture that express the idea that they should accept pain and injury in sport. These themes included ideas about the athlete's role to play for their team and express masculinity, to gain financial or social rewards, to tolerate pain and sacrifice their body for the team, to have confidence in healthcare personnel, and to accept the risk of pain that accompanies sport. The theme cited the most for rationalizing pain revolved around structural role constraints, which was defined as the responsibility related to the role of an athlete. It is within this theme that athletes feel expected to play through pain in order to not let their team down. Nixon has used this study to support the idea that the culture of sport in the United States promotes athletes to take chances with their well-being.

Nixon continued his research (1996) by surveying 195 NCAA Division I student-athletes on their attitudes and experiences with pain and injury. He observed how the variances in attitudes and pain and injury experiences were understood in terms of

descriptive characteristics (e.g., gender and race) and certain sports status factors. Participants were asked questions related to the themes he found in his previous content analysis (1993), regarding toughness, rationalization about playing injured, and demands from others (e.g., coaches) to play injured. He hypothesized that males, Whites, team sport participants, contact sport athletes, lineup regulars, and scholarship athletes were more likely to accept and encounter pain and injury in sport.

Nixon found that of the 195 athletes, 156 had experienced significant injury and reported playing hurt. Of those 156 student-athletes, 45% stated they experienced prolonged effects from their injuries and almost half felt pressure from coaches and trainers to participate hurt. Further results of the study found that participation in team or non-team sports, contact or non-contact sports, and having an athletic scholarship had no significant effect on differences in student-athletes attitudes and experiences with pain. In addition, gender created the best explanation of differentiation, considering the expectation for males to express masculinity and toughness in sports. Being a regular starter also affected differences in pain and injury experiences, because more time on the playing field would cause athletes to sacrifice their body more for the team. Finally, considering the predominately Caucasian power structure and fan base of sports in the United States at that time (1996), White student-athletes were more likely to accept pain and injury than non-Whites.

Findings in the Nixon study (1996) help to create a general understanding of the pressures that may contribute to athletes' normalization of pain and injury in sport. These pressures are reflected in other studies as well. For example, Charlesworth & Young (2004) summarized a study that surveyed 47 English female college athletes and found

that the women experienced a multitude of factors that pressured them to ignore pain and accept the risk of injury within their sport. Influences to play hurt came from ten different rationalizations: group bonds and team commitments, pressure from significant others (e.g., coaches, peers, trainers), body confidence, ambition, distinction and striving for success, team status and reselection, routine pain, team camaraderie, questionable medical advice and support, financial incentives, and disrupted routines. Team commitments or not wanting to let down teammates, as well as pressure from coaches, trainers, and peers proved to be the most common rationalization for playing hurt. Financial incentives, such as funding to compete at higher level competitions, and disrupted routines, where injury caused them to lose the structure of their daily routine, were the least commonly cited reasons. The ten reasons female college athletes rationalized playing hurt can also be seen in the context of professional sports (Roderick, Waddington, & Parker, 2000); however, the motivations to play while injured take on a different order of importance.

Roderick et al. (2000) interviewed 27 current and former professional English soccer players and 21 team sports medicine personnel in order to better understand the management of sports injuries at the professional level. The researchers found that although some players mentioned feeling like they let their team down when they were unable to play due to injury, the most common reasons athletes hid pain and played injured had to do with the "professional" aspect of professional sports. For example, the main reason an athlete would play hurt was out of fear of losing position on the team. In other words, the athletes feared losing their self-image as a professional athlete, financial incentives, and more importantly, their *job* in general. The pressure of having to perform

out of fear for losing one's own job is influenced by the business structure of professional sports. When one begins to understand that professional sport is set up in a way that the athletes are the employees, coaches are managers or supervisors, and team owners are the employers, ultimately, the athlete's decision whether to play hurt or not to play is complicated by a number of factors. If employees (the athletes) are too injured to play, they risk the chance of a poor evaluation and losing their job. However, if the employees play hurt and do their job, then the supervisors (coaches) and employers (team owners) are happy and the employees get to keep their job for another day.

The research on the influences of athletes to play injured creates a list of rationalizations requiring further evaluation. Two of the biggest rationalizations for playing injured included athletes' desire to not let their team down and pressures they experienced from other teammates, coaches, and medical personnel to play injured. Despite being able to draw a clearer picture of Nixon's belief (1992) that athletes are influenced to play hurt by other sportsnet members, the research discussed above only addressed athletes. It did not describe the reasoning behind coaches or sports medicine personnel's decisions to play an injured athlete.

Coaches

As illustrated by the literature on both college and professional athletes (Nixon, 1993; Charlesworth & Young, 2004; Roderick et al., 2000), it is obvious that there are numerous reasons athletes may play injured despite the risk of pain and long-term effects. As previously noted in Nixon's social network analysis (1992), athletes experienced influences from other sportsnet members to normalize pain and injury in sport. One of the most common reasons athletes have admitted to playing injured has to do with

pressure from other teammates, trainers, management, and most commonly, coaches. Because coaches play such a close influential role in a sportsnet, it is important to understand how they perceive the culture of risk, pain, and injury in sport.

Nixon's research on the pain and injury culture does not just revolve around athletes. He has also surveyed coaches in order to better understand their views of risk, pain, and injury in sport (1994). Nixon surveyed 26 coaches at a NCAA Division I sports program. The survey had a number of statements regarding the acceptance of pain and injury in sport. Coaches were asked to indicate whether they had strong agreement, agreement with reservations, disagreement with reservations, or strong disagreement with each of the statements. It was found that coaches expressed either strong agreement or agreement with two-thirds of the statements, which implied that coaches support athletes to take risks, play injured, and ignore pain. Due to the influential nature of a coach's position, these results help show how athletes can be influenced to accept pain and risk in order to please a coach who supports a culture of risk.

Another important reason to understand how and why a coach may pressure an athlete to play injured is because medical care may not always be readily available for athletes. For example, if a certified athletic trainer is not present to attend to an athlete who injures their ankle during a basketball game, the coach may pressure the athlete to return to competition, increasing the risk of further damage to the athlete's already injured ankle (Flint & Weiss, 1992). Flint and Weiss (1992) administered various game scenarios to 66 head high school basketball coaches, 60 head collegiate coaches, 26 high school athletic trainers, and 49 collegiate athletic trainers, athletic therapists, and physiotherapists. The hypothetical scenarios described winning, losing, or close game

situations that involved an injured player. By marking "yes" or "no," the participants were asked to make the decision of whether or not they would allow the player to return to competition after the injury. Consistent with their hypothesis, researchers found that coaches' decisions to return an injured athlete to competition was influenced by the player's status as either a starter, first substitute, or bench player, and the game situation. For example, coaches were most likely to allow an injured first substitute to return to play in a close game and were least likely to follow the same decision for a bench player. In contrast, and congruent with the second hypothesis, sports medicine personnel were not influenced by either player status or the game situation. Flint and Weiss attributed the difference in decisions between the two professions to the fact that a coach's role is to win games and make decisions that will help them to do just that. Meanwhile, athletic trainers did not experience the pressure of winning and were more concerned with injuries. In line with the results of this study, the researchers found a reason why coaches may feel the need to play an injured athlete.

Coaches play an extremely influential role in an athlete's life; in fact, coaches that tend to support a culture of risk in sport will also pressure an athlete to play injured (Nixon, 1994). However, due to the risk of further injury and the liability coaches take on when they make such choices, the decision to play a hurt athlete should be left up to sports medicine personnel who are trained to manage such injury situations (Flint & Weiss, 1992).

Sports Medicine Personnel

Flint and Weiss (1992) provided evidence that certified athletic trainers remained concerned with injuries, abided by a code of ethics, and did not make decisions based on

player status or game situations. Despite these findings, various studies have focused on the ethical and unethical decisions other sports medicine personnel are influenced to make (Safai, 2004; Waddington, 2006; Walk, 1997). Although most studies on sports medicine decisions and ethics did not specifically cover certified athletic trainers in the United States, we must look to other professions, even those in other countries, for a better understanding on the subject.

Ivan Waddington (2006) perhaps best described the core of ethical issues facing sports medicine personnel. Interviews were conducted with 22 English professional soccer club doctors and physiotherapists. From these interviews, Waddington addressed the issue of dual responsibility to both athletes as patients and to the team that employs them. This two-sided role creates ethical concerns related to informed consent, medical confidentiality, and return-to-play decisions.

In the case of informed consent, Waddington described how sometimes athletes were not provided all the necessary information they needed to make an informed decision about playing while injured. He cited a specific case where a doctor and physiotherapist completely withheld information from a patient in order to keep an athlete from questioning his injuries and potential premature retirement from the team (Waddington, 2006).

Because of doctors and physiotherapists' dual responsibility to the players as patients and the club as their employers, they find themselves in a complex situation when dealing with the matter of medical confidentiality. Waddington found that some sports medicine personnel valued their accountability to the players as patients, while others made their responsibility to the club their priority. Because of this discrepancy,

some athletes described their hesitation to reveal certain information to team sports medicine personnel.

The last ethical issue Waddington (2006) described concerned making return-to-play decisions. When making return-to-play decisions, doctors and physiotherapists were faced with the idea to "get players fit yesterday" (p. 189). This phrase referred to the pressure sports medicine personnel are faced with to get players back to competition as quickly as possible, even if it means they must make a decision they are uncomfortable with. From this concept stems the role of negotiation with management, coaches, and players in return-to-play decisions. When it came to these types of decisions, doctors and physiotherapists had to compromise with other sportsnet members in order to get players back on the playing field quicker, compromises that the healthcare professionals would have rather not made.

Safai (2004) also described these negotiation strategies and how they resulted from the "limitations imposed on sport medicine clinicians in a competitive sport system" (p. 273). These limitations included the fact that meshed within sports lies the culture of risk, pain, and injury, which causes sports medicine personnel to work with uncooperative patients (athletes) who are influenced by the culture (Safai, 2004). Safai also recognized how coaches, or even the injured athletes at hand, can overpower clinicians' decisions. She described an incident where a clinician gained a bad reputation with coaches and athletes after the clinician tried to keep a concussed player from continuing to play during a game. Because the coaches and the injured starting player demanded that he go back into the game, the clinician lost the dispute and the player went back into the game.

The pressure sports medicine personnel face from coaches and athletes was observed in a study on athletic training students (Walk, 1997). Walk conducted interviews with 22 student athletic trainers and found that athletes were playing hurt due to pressure from coaches to allow injured athletes to play and from decisions injured athletes made on their own. Student athletic trainers noted that athletes would disregard advice from medical staff, and seek health care practitioners from outside the university to clear them for competition. Once again, the sports medicine personnel found themselves in the middle of a conflict. This time, athletic training students were torn between normalizing the culture of risk and injury in sport and ensuring the long-term health of student-athletes.

Sports medicine is a complex practice. Research has demonstrated that due to the culture of risk, pain, and injury in sport, clinicians often find themselves conflicted. Waddington (2006) described how in English professional sports, doctors and physiotherapists were at odds with their responsibility to the athlete as a patient and their responsibility to the team management that employed them. Meanwhile, Safai (2004) and Walk (1997) described the pressures coaches and athletes placed on sports medicine clinicians to agree with an athlete to play hurt, which caused clinicians to struggle between the rationalization of playing with pain and caring for the long-term welfare of their athlete-patients. This battle can ultimately leave medical professionals at war with their own ethics. Until the practices of sports medicine clinicians are more fully understood, it is a war that will not be completely settled.

Summary

Past research on what has influenced sportsnet members to rationalize pain and injury in sport is a starting point in understanding how certified athletic trainers in the United States are enmeshed within the culture of risk, pain, and injury in sport. Research conducted on athletes to examine what influences them to play hurt (Charlesworth & Young, 2004; Nixon, 1993; Roderick et al., 2000) provided insight to how the culture is reinforced. Since pressure from others, such as coaches and sports medicine personnel, were found to be a major influence on athletes to play hurt, it was necessary to review what stimulated them to rationalize playing with pain. From this research, the conflicts that arose within the practice of sports medicine have been recognized. The ethical concerns surrounding sports medicine appeared within the conflicts described by doctors and physiotherapists (Waddington, 2006), student athletic trainers (Walk, 1997), and other sports medicine personnel (Safai, 2004). Considering these ethical issues, the close sportsnet relationship between athletes and certified athletic trainers, and the limited amount of research on certified athletic trainers in the United States, this study looks further into how athletic trainers perceive and manage a culture of risk that may defy their ethics.

CHAPTER III: METHODS

Participants

Participants for this study included Board of Certification (BOC) certified athletic trainers (n = 80) with at least five years of working experience (M = 16.51, SD = 9.77) in a NCAA Division I collegiate sport setting. A random sample of certified athletic trainers were recruited by the National Athletic Trainers' Association and asked via email to participate in the study. Using an outside organization to recruit certified athletic trainers helped to protect participants' anonymity. Collegiate athletic trainers were examined because the largest group of certified athletic trainers in the United States (22.5%) are found working in colleges, universities, and professional schools, compared to hospitals (16.2%), clinics (16.1%), and secondary schools (10%) (Bureau of Labor Statistics, 2011).

Online Survey

This study was performed using an online open-ended questionnaire created with Qualtrics, an online survey software program. The online questionnaire allowed participants to remain anonymous. Participants were not asked to volunteer any personal identifying information; rather, they were assigned identification numbers, leaving their personal identity unknown and completely confidential. Given the potential ethical issues that could arise with the culture of pain and injury in sport, this confidentiality potentially helped participants feel more comfortable while answering the questionnaire.

Survey questions (see Appendix A) were derived from the review of literature on the culture of risk, pain, and injury and its affects on athletes, coaches, and other sports medicine personnel. Questions were based on commonly mentioned factors that influence the acceptance of pain and injury in sport. These influencing factors include pressure from others to play while injured or in pain, an athlete's status role on the team, game situations, and responsibility to a team or employer. Inquiry into these factors and how they have affected certified athletic trainers experiences and decision-making responsibilities has helped to further the understanding of the culture of pain and how it affects athletic trainers and their decision-making responsibilities.

The questionnaire consisted of twelve questions: three demographic questions, six open-ended essay questions, and three Likert-scale questions. The questionnaire began by asking participants for general information about the sports teams they worked with and their years of experience. Questions proceeded to inquire about the participants' beliefs and experiences in regards to various factors that could affect the culture of pain, risk, and injury in sport (i.e., pressure to play from other parties, player status, game situations). Questions were presented in the order shown in Appendix A. Prior to the start of the study, the primary researcher used a panel of experts (five certified athletic trainers that met the study's requirements) to review the questionnaire in order to make sure the questions were understandable.

Procedures

The National Athletic Trainers' Association (NATA) recruited NCAA Division I certified athletic trainers. The NATA sent an email (see Appendix B), constructed by the primary researcher, asking athletic trainers to participate in the study by clicking a web

link, which led them to the online questionnaire. After clicking the link, participants were directed to a web page that further explained the study's procedures and described the informed consent. After reading the informed consent page, participants were given the option to participate in the study by indicating their agreement or disagreement. If subjects agreed to participate in the study, this implied consent, and they were able to start the questionnaire.

The purpose and methods of the study were fully explained and participants were informed of their rights before beginning the questionnaire. Participants were surveyed on a voluntary basis with the right to discontinue participation at any time or not answer particular questions. All participants were anonymous and any identifying information revealed in the questionnaires remained confidential.

From the time participants received the recruitment email, they had three weeks to complete the questionnaire. The questionnaire was untimed and took about 15 to 30 minutes to complete. If respondents had to exit the webpage while in the middle of answering the questionnaire, they were able to save their answers and continue at another time, if necessary.

Data Analysis

The responses to each question were exported into a single document. Descriptive data was generated from the three demographic questions and mean scores were calculated for Likert-response items. Data from open-ended questions were highlighted and grouped based upon common themes that related to the influence of the culture of risk, pain, and injury in sport. Once the data were compiled, organized, and interpreted by the researcher, a knowledgeable qualitative researcher reviewed the

interpretations in order to establish validity of the analyses. The process of peer reviewing allowed for the researcher to receive feedback and support from an experienced qualitative researcher, which contributed to the credibility of the study (Creswell & Miller, 2000).

CHAPTER IV: RESULTS

Response Rate

A total of 86 certified athletic trainers initially responded to the questionnaire. Two of the respondents declined the informed consent, indicating that they did not wish to participate, and four respondents did not meet the study criteria of having five years of experience, so their questionnaire answers were excluded from the results, leaving 80 total survey respondents.

Years of experience ranged from 5 to 41 years, with an average of 16.51 years (SD = 9.77). Together participants reported having experience working with a total of 29 sports. All 23 NCAA sports, except bowling, were represented. Participants most commonly reported that they had experience working with football (82.5%), basketball (77.5%), and soccer (73.8%) (see Table 1).

Table 1

Participant Sport Experiences

Sport	# of Participants	% of Participants
Football	66	82.5
Basketball	62	77.5
Soccer	59	73.8
Baseball	57	71.3
Track/Field	48	60.0
Softball	43	53.8
Tennis	42	52.5
Volleyball	35	43.8
Swim/Dive	34	42.5
Wrestling	31	38.8
Cross Country	28	35.0
Golf	28	35.0
Lacrosse	24	30.0
Ice Hockey	18	22.5
Gymanstics	13	16.3
Rowing	12	15.0
Field Hockey	10	12.5
Cheer/Dance	9	11.3
Rugby	5	6.3
Boxing	4	5.0
Water Polo	4	5.0
Rifle	3	3.8
Cycling	1	1.3
Sailing	1	1.3
Rodeo	1	1.3
Skiing	1	1.3
Weightlifting	1	1.3
Fencing	1	1.3
Synchronized Swimming	1	1.3

Total Participants = 80

Expecting Pain and Injury

Nixon (1992) concluded that every member of a sportsnet contributes in one way or another to the acceptance of pain and injury in sport. To become enmeshed within a sportsnet ultimately comes with the expectation of pain and injury. Questions three and

four of the questionnaire asked participants about the expectance of playing with pain and injury. Question three asked, "Do *you* believe the athletes you work with should expect to experience playing with pain and injury? Why or why not?" Question four asked, "In your experience, do you perceive that *athletes* expect to play with pain and injury? Why or why not?" Although the first half of each question seems as though it should have elicited a "yes" or "no" answer, participants did not always provide a "yes" or "no" response. Thus, an accounting of the exact "yes" and "no" responses cannot be reported. Rather, participants offered comments and anecdotes that served to describe their general response to each questions. As such, the common themes that emerged from their responses are being reported. Furthermore, participants frequently appeared to have conflated the two questions, which resulted in them addressing the underlying issue of expectance of playing with pain, rather than precisely answering the specific questions. The presentation of survey responses for questions three and four (n = 140 responses total for both questions) reflects the data as presented by the participants. Overall, the majority of certified athletic trainers participating in this study did have expectation that athletes would play with pain and injury.

Within athletic trainers' responses four themes that explained or qualified the participants' beliefs, expectations, and/or perceptions about playing with pain emerged: (a) the nature of sport; (b) participation should not make the injury worse; (c) pain tolerance; and (d) high level collegiate sport. Only a handful of responses (n = 6) indicated a belief or expectation that athletes should not play with pain and/or injury. It is also important to note that any given participant's response often addressed one or more of the emergent themes. In other words, participants commonly offered more than

one reason or rationale for their response to the questions about pain and injury expectation. The prominence or frequency of these themes is listed in Table 2.

Table 2

Frequency of Themes Related to ATCs' Expectations About Athletes Playing with Pain

Theme	The nature of sport	Participation should not make the injury worse	Pain tolerance	High level collegiate sport
Frequency of themes *n* (%)	49 (35.0)	31 (22.1)	19 (13.6)	17 (12.1)

The total number of participant survey responses for questions 3 and 4 = 140.

When asked whether they perceived that athletes expect to play with pain and injury, athletic trainers commonly expressed that participation in sport comes with an understanding that pain and injury will and do occur. One participant felt that most athletes knew that playing with pain and injury is "part of the deal" and that they are "acculturated to expect pain and are expected to be able to deal with it." As the previous participant stated, the expectation of participating with pain and injury is engrained within sport culture – a culture in which athletic trainers are a party to. The "nature of sport" frequently contributed to reasons why athletic trainers expected athletes to experience playing with pain and injury. As one respondent observed:

> Athletic activities are not going to be pain free all the time. Injuries do occur even when we [athletic trainers] try to do everything right. The nature of the things we do in athletics does not allow the participant to be pain free all the time.

Considering the athletic trainers partaking in this study worked exclusively within the competitive realm of NCAA Division I athletics, it is important to note that

participants believed the anticipation of pain was specific to the level of sport they worked within. Responses pointed towards a relationship between high-level competitive sport and the expectance of pain and injury. One participant noted this relationship when he or she stated, "I think [athletes] should expect to play with some level of pain/injury at the Division 1 level. The level of play and competition is higher along with higher expectations to perform." Another respondent expressed a similar belief:

> I work with athletes at a high D1 level. I always tell my athletes that the next time they feel 100% will be once they take 2 weeks off and are done or quit. When they are playing at this level the expectation is there that they will hurt.

While many of the athletic trainers believed that pain and injury should be anticipated in sport, some believed this expectance could correlate with each individual athlete's pain tolerance. Athletic trainers discussed two different types of athletes, those who knew what kind of pain they could and could not play with and those who did not know what level of pain they could handle. As one athletic trainer noted:

> In every sport I can produce an example of an athlete that played with real, debilitating pain and one that stopped the second they felt a little discomfort. Most athletes fall somewhere between the two extremes, but often have outside reasons for pushing themselves or pulling themselves out.

With respect to working with a variety of athletes and their levels of pain tolerance, participants also discussed having to distinguish between different types of discomfort. The athletic trainers expected athletes to be able to differentiate between soreness, pain, and injury, as this response clearly illustrates:

> Again you have to separate pain and injury; should they expect to play with either, yes as long as it is safe to do so. Getting kicked in the shin hurts; it is painful, and if you chose to play you will be playing with pain but that pain is not a reason you should stop. Breaking a finger is an injury, after a few days it no longer hurts and you can safely play with it in most any sport so why should you stop? A superbly conditioned marathoner, free from injury is in pain at the end of the race. They don't stop running when they begin to hurt; they push on and finish the race.

Although this participant believed that there was no harm in participating with the situations described above, the athletic trainer remained concerned with athlete safety, as indicated when the participant continued to answer, "the overriding concern for any athlete participating with pain or an injury has to be safety." This quote helps to illustrate the fact that athletic trainers still look to protect the health and well being of their athlete-patients despite expecting athletes to play through certain levels of discomfort. Expecting athletes to play with pain and injury, yet maintaining concern for athlete health and safety was commonly reported among many of the participants:

> I think athletes can play with certain levels of pain and/or injury. Virtually no athlete is ever totally healthy. If so, they probably aren't training very hard. My decision making about playing with pain and/or injury is based upon whether the athlete is a hazard to themselves (making this injury worse or sustaining another injury) or a hazard to team mates [*sic*].

> I think it is possible to play with some pain. If the athlete is functional and has full strength, the athlete will be able to play. I think the majority of athletes

would feel the same about this. If the athlete can protect themselves and not injure themselves further, they usually want the chance to play. Safety from further injury is what is key to allowing the athlete to play with some pain.

As illustrated above, pain and injury management in the athletic world is not black and white. If an athlete is in pain, they may be able to continue to compete, as long as doing so does not pose a threat to their long-term health. The duty of a certified athletic trainer is to help to identify these threats to health and safety. Although athletic trainers in this study may have believed that athletes can play with certain levels of discomfort, and in some cases encouraged it, they also stressed that maintaining athlete health and safety was part of their professional responsibility.

Sportsnet Pressure

Questions five and six asked participants about sportsnet pressure. Question five was a Likert-scale question, which asked, "Have you ever experienced pressure from others, such as coaches, athletes, or other athletic administrators, that relates to your responsibilities as an athletic trainer?" Participants were then give the option to select whether they "frequently," "sometimes," "infrequently," or "never" experienced pressure. Next, question six asked participants to describe their experiences with sportsnet pressure. When asked if they had ever experienced pressure from others, such as coaches, athletes, supervisors, or other athletic administrators, 79% of certified athletic trainers participating in this study answered that they "frequently" (22%) or "sometimes" (57%) felt pressured and no participants reported "never" feeling pressure (See Table 3). Participants described experiences of receiving pressure from athletes, administration, parents, and fans, but out of the 61 participants who described experiences with pressure

from other sportsnet members, 32 offered examples of being pressured by coaches (see Table 4). Coach pressure came in different forms, including rushing return-to-play decisions, insisting on the use of drugs and medication to mask athletes' pain, and questioning the athletic trainer's abilities.

Table 3

Frequency and Percentage of ATCs Experiencing Sportsnet Pressure

	Frequently	Sometimes	Infrequently	Never	Total
% of ATCs	22.0	57.0	21.0	0.0	100.0
n	15	39	14	0	68

Table 4

Sources and Frequency of ATCs' Sportsnet Pressure Experiences

	Coaches	Athletes	Administration	Others
% of ATCs	52.5	6.6	6.6	4.9
n	32	4	4	3

The total number or participant survey responses for question 6 = 61.

The biggest type of pressure described by participants occurred when coaches pressured athletic trainers to rush or, in some cases, ignore evaluation and treatment procedures in order to get an injured athlete back to competition as soon as possible. As one athletic trainer explained:

> Coaches from every sport I worked with have put pressure on me to release kids to practice or play early. It's usually a case of them trying to play doctor and diagnosing the injury or not thinking an injury is as serious as it really is.

Another respondent described how every sport carries pressure from coaches to get certain athletes "back on the field quicker than I think is reasonably safe." The participant went on to describe an experience while working with a softball team, "Specifically, while working softball I felt an athlete had fractured her hand. The coaching staff tried to talk me into waiting to get an xray [*sic*] and 'just see if she could play in the game.'"

The second most commonly mentioned type of coach pressure dealt with coaches' insistence on the use of drugs and medication to manage athlete pain and injury. Athletic trainers described instances when coaches would pressure them to "give them a pill" or "get them a shot" in order to mask athletes' pain.

Finally, questioning the abilities of the athletic trainer emerged as another way coaches would put pressure on certified athletic trainers. Coaches would question athletic trainers' abilities and decisions when injured athletes did not recover according to a coach's expectations. One participant described an experience where a women's basketball coach felt an athlete wasn't recovering quickly enough:

> Coach was upset that one of her "star" players was missing a game due to an ankle injury. She stated to me "never in my 20 years of coaching have I had an athlete miss a game due to an ankle injury."

Although most of the study's participants shared experiences where they felt pressured by coaches, it must be emphasized that pressures can come from all types of parties, not just one group of people. As previously mentioned, athletic trainers also described experiencing pressure from athletes, parents, and administrators. One

participant recounted the ways that different parties had exerted varying degrees of pressure in an effort to influence that athletic trainer's decisions:

> You experience pressure almost daily; I have had administrators tell me that a basketball athlete has to play because they are getting a scholar ship [*sic*]. I have had coaches pressure me to clear an athlete to play in baseball, football, soccer, softball, lacrosse, and wrestling to name a few. I had parents sit in my office and threaten to take me to court when we wouldn't clear their son to wrestle. I have athletes that push for surgery because they think they need it even when there is no medical reason to perform a procedure. I don't have the space to describe each incident; some of these were cordial, some were contentious and some were out right hostile. Everyone had their own agenda and desires and probably thought they were doing the right thing. It's my job to make sure their idea of what is right doesn't conflict with what is safe for the athlete.

In response to such situations, some athletic trainers described ways to combat or neutralize the pressure. Some participants utilized communication and relationship building techniques in order to meet the pressures of their job. One participant described the value of communication, "Good communication and explaining how to best return an athlete always help limit the amount of pressure a coach places upon an athletic trainer." Another participant talked about how his or her relationship with the coaches helped to diffuse pressure:

> I haven't had a lot of direct "pressure", because I believe I have built enough of a relationship with the coaches with whom I work that I am on their side and if it was safe for the player to play that I would put him/her in.

Meanwhile, in order to meet pressure, other participants mentioned holding athletes accountable for their treatment and rehabilitation, taking extreme cases of disagreement between athletic trainers and other sportsnet members all the way to the president of a university, and holding their ground in order to protect the athlete.

Situational Factors

Questions six and seven inquired about situational factors. Question six was a Likert-scale question that asked participants to indicate whether certain situations: the athlete's role on the team; a competitive game situation; time of the season; or other factors, "frequently," "sometimes," "infrequently," or "never" affected their decisions or caused them to change their approach to decision-making regarding injuries. Question seven followed-up by asking participants to describe their experiences with situational factors. When asked whether an athlete's role on the team, a competitive game situation, time of the season, or other factors affected their decisions, most athletic trainers in this study answered that those factors "sometimes" or "infrequently" affected their decisions. Time of the sports season had the biggest affect on athletic trainers decisions, with 70.32% of participants indicating that this factor either "frequently" (23.44%) or "sometimes" (46.88%) affected their decisions. The athlete's role on the team was indicated as the least likely to be factored into athletic trainers decisions, with 59.38% of participants indicating that this fact either "infrequently" (29.69%) or "never" (29.69%) affected their decisions (see Table 5).

Table 5

Frequency and Percentage of Response to Situational Factors Affecting Decisions

Situational Factor	Frequently *n* (%)	Sometimes *n* (%)	Infrequently *n* (%)	Never *n* (%)	Total *n* (%)
Athlete's role on the team	3 (4.7)	23 (35.9)	19 (29.7)	19 (29.7)	64 (100)
Competitive game situation	3 (4.7)	27 (42.2)	21 (32.8)	13 (20.3)	64 (100)
Time of the season	15 (23.4)	30 (46.9)	12 (18.8)	7 (10.9)	64 (100)
Other	2 (9.5)	10 (47.6)	2 (9.5)	7 (33.3)	21 (100)

Time of the season was also the most frequently explained situational factor when athletic trainers were asked to describe their experiences (see Table 6). When discussing time of season, athletic trainers were more likely to take a conservative treatment approach with injuries when they occurred either during the off-season or pre-season. A more aggressive treatment would occur with injuries that happened while in-season, as explained by this participant:

> Injuries during non-traditional seasons allow for long time lines; and if you have the stamina for the debates, long recovery times. Preseason injuries put tend [*sic*] to put you under the gun to make a decision but you still have weeks to get someone ready to play. It is the in season injuries that require the most thought and creativity. It is in season injuries that tend to result in the shortest down time and most intense interventions because you simply have less time to make an impact.

Table 6

Frequency of Participants' Experiences With Situational Factors

Situational Factor	Time of the season	Athlete's eligibility/experience	Competitive game	Don't base decisions on situational factors
% of ATCs	40.4	25.0	13.5	7.7
n	21	13	7	4

The total number of participant survey responses for question 8 = 52.

When making decisions on whether to allow an injured athlete to play, then next most commonly discussed situational factor that athletic trainers took into consideration was the athlete's year of eligibility and experience. Just as this participant expressed, the older or more experienced an athlete, the more likely the athletic trainer would be willing to allow the athlete to play through pain and injury: "There have been situations when an athlete was a senior who was allowed to return to play sooner than a younger player may have been in order to allow them to compete/end their career on their terms." Another athletic trainer described a similar situation, "During the last football game of this season we allowed a senior to play with a shoulder injury that we probably wouldn't have let an underclassman play with."

When situational factors affected their decisions, athletic trainers also talked about the importance of discussing with athletes and coaches the risks involved with playing injured. Here, one participant describes an experience with discussing risks:

> I have discussed at length and in detail with coaches what an athlete can or cannot do when returning an athlete to play. A running back with a knee injury that can run straight ahead, but not cut may play if he only runs straight ahead or [as] a

> receiver that cannot be sent "across the middle" in fear of further injury. Coaches have been receptive to these restrictions.

Once again, maintaining athlete health and safety was a major topic of discussion for athletic trainers and communicating risks was a way to help achieve that objective.

Goals and Priorities

Questions nine through twelve asked participants to answer questions about their employers' goals and priorities. Question nine asked participants to indicate whether they were employed by a university or clinic. Question ten inquired, "As a certified athletic trainer, what do *you* perceive to be the priorities and/or overall goals of your employer?" Question eleven was a Likert-scale question that asked participants to indicate whether their perceived priorities and/or overall goals of their employers "frequently," "sometimes," "infrequently," or "never" affected their decisions regarding injuries. Finally, question twelve asked participants to describe experiences in which their employer's priorities/goals had affected their decisions.

Ninety-eight percent of certified athletic trainers surveyed reported that the college or university they worked at served as their employer. When asked what they perceived to be the priorities or goals of their employer, a number of athletic trainers reported that the health and safety of student-athletes was a goal (see Table 7). As one participant expressed:

> I believe our goal is to provide prevention and treatment and rehab of athletic injuries. I also believe it is my place to ensure that the athletes receive the care that they need and to act as a liason [*sic*] between the coach and the player, as the

athletes are usually scared to tell the coach that something is hurt or injured and that they will not be able to play.

Although this statement provided an excellent example of how certified athletic trainers prioritized the health and safety of student-athletes, it also served as an example of how athletic trainers may have misinterpreted the question, and instead, referred to their personal goals as an athletic trainer, rather than the goals of the university in which they were employed. This misunderstanding will be further explained in the Discussion section of this thesis.

Table 7

Frequency of Goals and Priorities of Employers as Perceived by ATCs

	SA health and safety	Being successful	Education	Provide a quality experience for SAs	Make money	Create well-rounded graduates
% of ATCs	47.5	28.8	18.6	16.9	11.9	10.2
n	28	17	11	10	7	6

The total number or participant survey responses for question 10 = 59.
Key: SA = student-athlete

Other goals that participants perceived to be of importance to the university had to do with being successful (e.g., winning games), making money, and producing well-rounded and educated student-athletes. When athletic trainers discussed success and education, they typically answered that these goals "infrequently" or "never" affected their decisions.

When asked whether the goals and priorities of their employer ever affected their decisions, 49% (n = 29) of athletic trainers reported "never," 22% (n = 13) reported "infrequently," 22% (n = 13) reported "frequently," and 7% (n = 4) reported

"sometimes." Considering that this Likert-scale question was a continuation of the question before it (which may have been misinterpreted), the impact of these results will also be more thoroughly explained in the Discussion section of this thesis.

CHAPTER V: DISCUSSION

The purpose of the present study was to evaluate the current perceptions of pain, risk, and injury held by certified athletic trainers and to discover how those perceptions may affect an athletic trainer's decisions. Certified athletic trainers are at the center of a sport culture that accepts competing with pain and injury in sport; however, very little literature about how that culture affects athletic trainers exists. The results of this study contribute to a further understanding of the culture of risk, pain, and injury in sport, the profession of athletic training, and the nature of NCAA Division I collegiate athletic training environments.

The results may not seem unexpected to athletic trainers, given the fact that they are enmeshed within sport culture and must deal with pain and injury on a daily basis. Nixon (1992) identified sports medicine personnel as one culprit in the normalization of pain and injury in sport. In this study, when asked to give their own opinion on whether pain and injury in sport should be expected, the majority of athletic trainers believed athletes should expect to experience pain and injury at some point during their career. The "nature of sport" or "culture of sport" was identified as a main reason why pain and injury should be expected by both athletes and athletic trainers. In Nixon's content analysis of *Sports Illustrated* articles (1993), he concluded that the culture of sport in the United States creates a set of beliefs, which express that athletes should accept pain and injury in sport. Nixon went on to discover that athletes (1996) and coaches (1994) both

expressed the acceptance of this culture of pain and injury. Considering that athletic trainers are not sheltered from the sports media that promotes acceptance of injury and that they work closely with both athletes and coaches on a daily basis, it is not unusual that athletic trainers attributed their acceptance and expectance of pain and injury to the nature of sport.

Another way participants in the study normalized pain and injury was illustrated by the number of athletic trainers who indicated that they expected athletes to distinguish between soreness, pain, and injury. Athletic trainers expected athletes to be able to play through some types of soreness and pain, however, many of the participants also commented on the difference between athletes' pain tolerances. Pain remains a very subjective injury symptom and pain tolerance is undoubtedly unique to every individual athlete. When caring for a variety of athletes, it is important for athletic trainers to understand individual pain differences between athletes. While participants in this study acknowledged the perceived pain differences among athletes, other athletic trainers may fail to recognize these variations among their athlete-patients. If athletic trainers treat every patient's pain and injury in the same exact way, they could potentially return an athlete to competition before the athlete feels prepared. Premature return-to-play increases the likelihood that the patient could be at risk of further harm. To prevent further injury and ensure patient health and safety, athletic training education programs should stress to athletic training students the importance of recognizing individual pain tolerance differences.

Just over half of the participants described experiences in which they had felt pressure from coaches. Sportsnet pressure from other sources such as athletes,

administration, parents, and fans could not compare to how many athletic trainers in this study received pressure from coaches. Coach pressure comes in various forms, but the most common type of pressure discussed by participants occurred when coaches rushed athletic trainers to make return-to-play decisions. Some athletic trainers felt these forms of pressure were, in part, due to coaches' misunderstanding or lack of knowledge on injuries. As one participant put it:

> I think that most coaches don't understand injuries and especially time lines when it comes to return to play. They all want want [*sic*] is best for the players, but their job depends on having the best chance to succeed.

Not only did this individual acknowledge coaches' lack of injury expertise, but the participant also recognized the fact that coaching jobs depend on a team's success. In their study, Flint and Weiss (1992) also recognized how coaches were faced with the pressure to either win, or be at risk of losing their job. The pressure to win in collegiate sports has grown within the last twenty years and the stakes are higher than ever before. Every year, coaches are fired and hired based up on the types of success they have experienced through out their careers. In only the last four years, 81 NCAA Division I Football Bowl Subdivision programs (67.5%) have experienced a head coach change (ESPN.com, 2009; 2010; 2011a; 2011b). Although not many of the athletic trainers in this study discussed how the demands on coaches to win can, in turn, cause coaches to put pressure on athletic trainers, it is still important to draw certified athletic trainers' attention to external factors that may influence their work environment (e.g., a coach's job security).

Other external dynamics that could affect an athletic trainer's decisions include certain situational factors. Game situation and player status as a starter or bench player were factors that have had an effect on whether a coach would allow an injured athlete to play (Flint & Weiss, 1992; Vergeer & Hogg, 1999). The current study discovered that athletic trainers were primarily influenced by the time of the sport season. Participants would be more likely to allow an injured athlete to compete while in-season, but *only* if there was no chance for further risk of injury to the patient. Another common situational factor athletic trainers took into consideration was an athlete's year on the field or experience level. Considering that an athlete's role on the team as a starter or bench player can correlate with their experience level, it is remarkable that the athlete's role on the team was averaged as the least likely to be factored into decisions. However, when describing their experiences, athletic trainers *did* associate level of experience with whether an athlete was a starter or not. One participant admitted that the athlete's role does occasionally become a factor in return to play decisions:

> In general I will give a starter the benefit of the doubt when they tell me they can go and can demonstrate they are capable of performing at the necessary level. A practice player is usually younger and less experienced and has to earn that level of trust from me so they might sit out another day or two when a start[er] might get back a little sooner.

Time of the season and player status can have an effect on athletic trainers' decisions. Meanwhile, competitive game situations and player status can affect coaches' decisions. In a collegiate setting, athletic trainers are part of the sports medicine team that makes the decision as to whether an athlete can compete with pain and injury.

Coaches are not part of the healthcare team. However, considering that athletic trainers are most likely to receive sportsnet pressure from coaches, the results of this study suggest that a coach may, indeed, put pressure on an athletic trainer during competitive game situations to allow an injured athlete to compete. Therefore, not only do player status and time of the season have an affect on certified athletic trainers' decisions (as reported by participants), but it is possible that competitive game situations may influence their decisions as well, if coaches intervene. It is of upmost importance that athletic trainers are aware of how these external dynamics and situational factors may affect their decisions. If they remain unaware, their capacity to act within professional standards can decrease. In other words, athletic trainers are taking ethical risks when they allow injured athletes to compete based off of external dynamics, instead of considering what kind of impact participation would have on an athlete's health and welfare.

Ensuring the prevention of additional harm and maintaining patient health and safety was a common thread throughout the results—a positive and encouraging finding despite the fact that, at times, some athletic trainers did consider situational factors when making decisions. Athletic trainers wrote about how they would never want to create a situation where the threat of greater injury or re-injury existed. Making patient health and safety a priority is one of the most important rules an athletic trainer must follow. The athletic training profession's *Standards of Professional Practice* (2006) discusses the professional responsibility of the athletic trainer and includes guidelines related to professional responsibility: "The Athletic Trainer… protects the patient from harm, acts always in the patient's best interests and is an advocate for the patient's welfare" (p. 3).

The culture of pain in sport defies the athletic trainer's ethical standards, but by maintaining the guidelines of professional responsibility and prioritizing patient health and safety, athletic trainers are able to preserve ethical integrity.

Another common theme found throughout the data was that sportsnet pressure and consideration of situational factors occurred regardless of the type sport. When describing their experiences, athletic trainers were asked to be specific about what sports they were working with when they had the experience. Many participants would talk about multiple sport experiences, while others were explicit in pointing out that their experiences were not unique to a single sport. An important finding from this study is that no collegiate sport remains untouched by the culture of risk, pain, and injury.

The participants were not directly asked how they managed to overcome sportsnet pressures, however, communication emerged as an important technique employed by athletic trainers when faced with this type of pressure. As with most jobs, good communication skills are important to establishing positive relationships and producing positive job outcomes. In this study, good communication with coaches, athletes, and athletic administration was identified as the key to thwarting potential ethical issues associated with increased risk of injury or re-injury. To help defuse sportsnet pressure, communication needs to be a component of athletic training education and clinical instruction. Future research should examine communication and other techniques used by athletic trainers to adapt to the kinds of pressure within the culture of pain.

Future research also needs to explore how athletic trainers' decisions are affected by sportsnet pressure. This study only asked whether athletic trainers had ever experienced sportsnet pressure. It did not ask whether or not sportsnet pressure actually

affects an athletic trainer's decisions. Whether or not participants gave into pressure from other sportsnet members remains unknown. Do athletic trainers cave in to coaches' demands? Is it common for an athletic trainer to change their decision based upon what the coach wants? Or, do athletic trainers stand their ground when it comes to decisions about the health and welfare of their athlete-patients? Considering that many coaches may lack important knowledge about athletic injuries, athletic trainers who change decisions, based upon a coach's opinion and not their own evidence-based practice, would be creating greater potential to cause further injury to the patient. The effect of sportsnet pressure on professional and ethical decision-making warrants further examination.

Waddington (2006) and Roderick et al. (2000) performed research in professional sports settings. They found that athletes and sports medicine clinicians in this setting felt pressured by the fact that the teams they worked for were also their employers. Athletes worried about losing their income and livelihood if they did not compete despite being injured (Roderick et al., 2000). Meanwhile, sports medicine clinicians felt torn between their responsibilities to their athletes as patients and the team that employs them (Waddington, 2006). Because of these findings, and the fact that NCAA Division I athletic programs serve to produce revenue and exposure for the university, I found it important to ask athletic trainers whether they felt that the goals and priorities of employers ever affected their decisions. The results were optimistic since the majority of athletic trainers (71%) reported that their employer's goals "never" or "infrequently" affected their decisions; with that said, however, participants may have misinterpreted the series of questions about employers. In some instances, when answering what they

believed to be the goals of their employer, some participants instead referred to either personal goals as an athletic trainer or the goals of their supervisor in athletic training room. For example, rather than referring to the university's goals, participants referred to their own goals with the use of phrases such as, "I believe it is my place…" or "It is my job to…" Nevertheless, some athletic trainers did believe that the university's goals encompassed maintaining student-athlete health, as reported by this participant:

> I think I am fortunate that my school supports me and my staff in putting the health of the student-athlete first. That is not to say there aren't times when I have to explain my reasoning, but the administration doesn't see me as an employee of the coach.

When asked whether the university's goals and priorities affected their decisions, a number of athletic trainers who listed athlete health and welfare as a priority contradicted themselves by reporting that those goals "infrequently" or "never" affected their decisions. This contradiction is a perplexing detail, considering that athletic trainers' professional responsibility is to maintain patient welfare, one would expect participants to indicate that health and safety "frequently" or "sometimes" affected their decisions, regardless of whether health and safety was a priority of the university or a personal priority. Future research should delve further into the working relationship between employers and athletic trainers in order to clear up the misinterpretations created by this group of questions.

The findings of this study are specific to work setting (NCAA Division I collegiate athletics) and years of experience (a minimum of 5 years), but may have also been impacted by other factors such as gender and specific sport cultures. Future

research should examine how other settings, factors, and experience levels might shape certified athletic trainers' experiences within the culture of pain, risk, and injury. Such research should explore whether the gender of the participant plays a role or whether particular sports elicit different experiences, too. Certified athletic trainers working in different settings (e.g., high school, clinical and professional sports; NCAA Division I and II; National Association of Intercollegiate Athletics (NAIA)) and with different levels of experience (e.g., entry-level, 10+ years, 20+ years) may have different experiences to share, and such groups should be included in future research.

Another limitation of this study included the survey completion rate among participants. Out of the 80 survey respondents, 20 had dropped off before completing the entire questionnaire, leaving only 60 completed surveys (75% completion rate). Questions four through twelve had greater than 10% of the responses missing. Due to certified athletic trainers' busy schedules, the length of the survey and request for in-depth responses could have factored into the reason why some participants did not complete the questionnaire. The fact that some questions may have elicited responses of an unethical nature and made respondents uncomfortable could also be another reason participants left parts of the questionnaire incomplete.

In conclusion, this study has provided a look into the profession of athletic training and how athletic trainers in the United States are pressured and affected by the culture of risk, pain, and injury. This culture remains prominent throughout sport; however, change may be on the horizon. A handful of athletic trainers, all with more than eleven years of experience, reported observing a gradual change in the culture of sport over the years. They have witnessed athletes becoming more educated about

injuries, and therefore, becoming more intent on participating in sport only when pain and injury free. An athletic trainer with over four decades of experience described how, compared to athletes of the past, today's athletes are less likely to play with pain. The participant added to this observation by noting, "There is better care for [athletes] and they are more aware of what can be wrong and how they can better take care of the cause of the pain and return to play at a higher level."

In recent years, research and the national media have provided an increased awareness about athletic injuries and their long-term effects (e.g., multiple concussions are now linked to chronic traumatic encephalopathy). Based upon responses by certified athletic trainers participating in this study, increased attentiveness to the effects of athletic injury may make sport participants less likely to normalize competing with pain and injury. A better understanding of athletic injuries by coaches, athletes, and other non-healthcare-oriented sportsnet members will hopefully help lead to a gradual decrease in pressure on certified athletic trainers to return athletes to play too quickly. Limiting these types of pressures will strengthen the ability of an athletic trainer to maintain athlete-patient welfare and uphold the ethical integrity of the profession.

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APPENDIX A

Questionnaire

1. How many years of experience do you have as a certified athletic trainer?

2. What sport(s) do you have experience working with? (Please include your past and present experiences.)

3. Do *you* believe the athletes you work with should expect to experience playing with pain and injury? Why or why not?

4. In your experience, do you perceive that *athletes* expect to play with pain and injury? Why or why not?

5. Have you ever experienced pressure from others, such as coaches, athletes, or other athletic administrators, that relates to your responsibilities as an athletic trainer?

☐ Frequently

☐ Sometimes

☐ Infrequently

☐ Never

6. If you indicated that you have experienced pressure, describe your experience(s) and be sure to specify what sport(s) you were working with at the time.

7. Have any of the following factors affected your decisions or caused you to change your approach to decision making regarding injuries. (If you select 'other factors' please indicate what other factors you are referring to in the text box provided.)

	The following factors have affected my decisions:			
	Frequently	Sometimes	Infrequently	Never
The athlete's role on the team (e.g., starter, bench player)	☐	☐	☐	☐
A competitive game situation	☐	☐	☐	☐
Time of the sports season (e.g., preseason, postseason, during season)	☐	☐	☐	☐
Other factors _____	☐	☐	☐	☐

8. If you indicated that certain factors affect your decisions or cause you to change your approach to decision making regarding injuries, describe your experience(s) and be sure to specify what sport(s) you were working with at the time.

9. Who is your employer? (Do not specify the name of your employing organization)

☐ A college or university

☐ A clinic

☐ Other _____

10. As a certified athletic trainer, what do *you* perceive to be the priorities and/or overall goals of your employer?

11. Have these priorities and/or overall goals ever affected your decisions regarding injuries?

☐ Frequently

☐ Sometimes

☐ Infrequently

☐ Never

12. If you indicated that your employer's priorities and/or overall goals affect your decisions regarding injuries, please describe your experience(s) and be sure to specify what sport(s) you were working with at the time.

APPENDIX B

Recruitment Email and Survey Link

Dear Fellow Certified Athletic Trainer:

My name is Ana Nemec and I am certified athletic trainer and a Boise State University graduate student working on a Masters of Exercise Science and Sports Studies degree. As part of my thesis I am conducting a research study about certified athletic trainers and how they are affected by the culture of pain, risk, and injury in sport. This letter is to request your participation in this study.

As part of my study I am going to survey **certified athletic trainers working in a NCAA Division I athletic setting with at least 5 years of certified experience.** If you meet these criteria, you are eligible to participate in my study.

The questionnaire consists of 12 questions and will take about 15-30 minutes to complete. If you are interested in participating, please follow the link at the end of this letter to an online survey titled: Certified Athletic Trainers and the Culture of Risk, Pain, & Injury.

This student survey is not approved or endorsed by the NATA. It is being sent to you because of the NATA's commitment to athletic training education and research.

One thousand randomly selected certified NATA members with a listed email address are being asked to submit this questionnaire, but you have the right to choose not to participate. The Boise State University Institutional Review Board has approved this study for the protection of human subjects.

This is a completely anonymous questionnaire and upon submission, neither your name nor email address will be attached to your answers. Your information will be kept strictly confidential.

As a fellow certified athletic trainer, your knowledge and opinions regarding this topic makes your input invaluable. Please take a few minutes to fill out the anonymous questionnaire you will find by clicking on this link and submit it by **December 31, 2011:**
https://boisestate.qualtrics.com/SE/?SID=SV_eew61d0bMg3JJJ2

Thank you for your time and consideration.

Sincerely,

Ana Nemec, LAT/ATC

Boise State University

(208)-426-1053

ananemec@u.boisestate.edu

Participants for this survey were selected at random from the NATA membership database according to the selection criteria provided by the student doing the survey. This student survey is not approved or endorsed by the NATA. It is being sent to you because of the NATA's commitment to athletic training education and research.