Making Return-to-Play Decisions in Competitive Sport: Challenges, Coping, and Preparation among Athletic Trainers

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Dedications

This project is dedicated to my loving parents and Buddy. I couldn't have done it without your tireless love and support.

Abstract

Athletic trainers are challenged by the task of making ethical return-to-play (RTP) decisions in a sport culture that normalizes pain and playing through injury. The purposes of this study were to examine within an athletic training sample a) the accuracy, applicability and comprehensiveness of Creighton et al.'s (2010) decision-based RTP model, b) to what extent and under what circumstances decision-modifier variables influence RTP decisions, and c) athletic trainers' strategies and perceptions of their professional preparation for dealing with decision-modifier variables in RTP decisions. Twelve certified athletic trainers of various ages (M = 34.67 yrs, SD = 6.12 yrs) and with varied professional experience (M = 12.08 yrs, SD = 6.08 yrs) participated in semi-structured interviews regarding their experiences making RTP decisions. Template analysis (King, 1998) and thematic coding (Braun & Clarke, 2006) were used to analyze the data. The 3-step decision-making process was supported; however, modifications were necessary. Medical factors considered in step one included signs and symptoms, functional testing, physical healing, psychological state and personal medical history. In step two, all of Creighton et al.'s (2010) sport risk modifiers were retained and potential seriousness, environmental conditions, expertise of physicians and psychological state were added. Decision modifier variables in step 3 of the model were expanded. External modifier variables included situational pressures, such as game and player importance, time issues, and competitive level; external people, such as athletes, parents, coaches, agents, non-team physicians, administration, management, media other athletic trainers, and officials; and sources of financial conflict of interest, such as bonuses, incentives or the athletes' financial state. Internal decision modifier variables included anxieties over

job security, litigation, or professional reputation, and personal factors, such as age and experience, emotional attachment, personal biases, and gender. An external by internal interaction effect increased the potential for RTP decision modification. Strategies suggested for coping with potential decision modifier variables included establishing objective, evidence-based protocols, educating and establishing trusting relationships with stakeholders, creating a positive work environment, and fostering confidence in decision-making skills. Shortcomings in current professional preparation are outlined, and a framework for improving athletic training education efforts is provided.

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CHAPTER ONE

Introduction

Sport participation involves risk. Frey (1991) states risk is ordinarily defined in "terms of uncertainty about the outcome of an event or action" (p.183). In sport, each time athletes step into the competitive arena, there are multiple uncertainties: the final score or competition result, the personal performance of each athlete, as well as whether athletes will or will not sustain injury. This chronic uncertainty regarding the risk of injury has led some to label the sporting environment a "culture of risk" (Nixon, 1992).

A multitude of factors contributes to sport injury risk, including factors internal to the athlete, as well as external social, cultural, and environmental factors. Wiese-Bjornstal (2010) presents a biopsychosocial sport injury risk profile that summarizes these factors. According to the model, sport injury risk is influenced by the athletes' internal physical (e.g., fitness, flexibility, strength, prior injury status, mechanics, etc.), and psychological characteristics (e.g., mood state, risk behaviors, need to prove self, identity as an athlete, etc.). Additionally, extrinsic physical factors, such as the sport type, safety equipment used, and conditions of the field, combine with socio-cultural factors, such as the norms of the sport, the quality of coaching, and social pressures to perform, to create a composite sport injury risk profile (Wiese-Bjornstal, 2010). The interaction of these multiple factors contributes to athlete exposures, choices, and behaviors, resulting in the uncertainty of whether athletes will sustain an injury or not.

Although injuries result from some precipitating cause or event (Meeuwise, Tyreman, Hagel, & Emery, 2007), injury occurrence is a product of controllable athlete behaviors combined with many uncontrollable risks inherent in the sport environment.

Verhagan, van Stralen, and van Mechelen (2010) identify the behavior of others surrounding the athlete as an example of an uncontrollable factor that can also impact injury risk. For example, coaches who overtrain athletes or utilize unsafe drills, or officials/referees who allow a great deal of physicality in a competitive contest can create an increased risk of injury for athletes. However, injury risk can also be decreased through the behavior of others surrounding the athlete.

Sports medicine professionals are committed to making the risk of injury for athletes as minimal as possible. Athletic trainers in particular are allied health care professionals dedicated to preserving the health and safety of physically active persons. The athletic trainers' primary responsibility is to "make the competitive environment as safe as possible to minimize the risk of injury" (Prentice, 2014, p.14) leading some to label their efforts as creating a "culture of precaution" (Safai, 2003, p.141).

These competing cultures of risk (Nixon, 1992) and precaution (Safai, 2003) challenge athletic trainers in every aspect of their job, but particularly in decision-making processes regarding when it is safe for athletes to return to sport participation following injury. There are no concrete answers in these difficult decisions. For example, athletic trainers can never be certain whether allowing an athlete to participate with a strained muscle or a sprained ankle that is almost healed will result in further damage or not. Malcolm (2009) labels this ambiguity as "clinical uncertainty" (p. 193) and states that the greater the degree of clinical uncertainty, the greater the scope for social pressures to exert an influence over the clinical decision-making process. Unfortunately, very little is known about the psychosocial pressures athletic trainers encounter when making crucial return-to-play decisions or their perceived readiness to cope with such pressures.

Considering that return-to-play decisions are a daily occurrence in the professional life of athletic trainers and athletes' health and well-being are often at stake in these decisions, a better understanding of the complexity of making these decisions ethically within the sport culture is warranted.

Review of the Literature

In order to more completely understand the challenges athletic trainers face in making ethical and safe return-to-play decisions, the complex natures of decision-making, pain perception, and the sport culture must be examined. The review of literature first discusses decision-making theory in medicine and defines the pain and injury experience. Issues of sport ethic conformity, athletes' willingness and desire to play through pain and injury, athletic trainers' professional and ethical responsibilities to protect athletes from harm, and the unique challenges these conflicting concepts create are next discussed. Finally, a conceptual model for return-to-play decision-making among sports medicine clinicians is reviewed.

Decision-Making Theory in Medicine

Traditional decision-making models can be divided into two approaches. First, the normative model approach describes how individuals should make decisions. This approach concerns itself with developing normative decision algorithms that guide choice (Chapman & Sonnenberg, 2000). The expected utility theory (Von Neumann & Morgenstern, 1944) is one of the most frequently cited normative decision models under conditions of uncertainty (Chapman & Sonnenberg, 2000). This model assumes that individuals are fully rational in their decision making process in that they make decisions by collecting complete information about the probabilities and consequences associated

with each possible course of action and then making decisions that will maximize gains. There are several criticisms of normative approaches. The first is that humans are not capable of being fully rational (Simon, 1955). In many real life situations, it is unlikely that anyone could figure out all possible alternatives and all consequences that would follow each alternative, especially when applied to medical decisions. Additionally, time constraints, risk and uncertainty are prevalent in many real-life decisions and are not considered by normative model approaches (Gorini & Pravettoni, 2011).

The second approach to decision-making involves descriptive theories. Descriptive theory models look at how decisions are made in real life situations (Gorini & Pravettoni. 2011). Prospect theory (Kahneman & Tversky, 1979) is an example of a descriptive theory that has been applied to medical decision-making and attempts to account for risk and uncertainty. Prospect theory looks at the broader environment in which people operate in order to understand how and why individuals make decisions that may place themselves at risk (McDermott, 2007). According to prospect theory, decisions involve two sequential cognitive functions, framing and evaluation. Framing involves the context of the decision-making, and evaluation emphasizes the subjective assessment of the situation, often influenced by the frame. If things seem to be going well and/or seem like they will improve, the decision-maker is said to be in the domain of gains (i.e., their frame). If the opposite is true, things are not going well or the situation seems likely to deteriorate, the decision-maker is said to be in the domain of losses. Prospect theory predicts that the perceived domain affects how likely people are to take risks. Individuals tend to be risk-aversive in good situations. That is, they are less likely to gamble something valuable for the possibility of gaining something more. On the

other hand, when in perceived bad situations (i.e., domain of losses) individuals are risk-seeking. That is, individuals feel like there is nothing to lose so they may as well take risks to attempt to improve their situation.

The evaluation of risk and consequences in decisions is a subjective process. Individuals make assessments about the probability of events or outcomes based on what they think is likely rather than what is objectively likely (Kahneman & Tversky, 1973; Tversky & Kahneman, 1974). Framing decision problems in terms of losses or gains can influence people's subjective assessments about the probability of events or outcomes and thus their decision choices (Tversky & Kahneman, 1981). For example, the decision of a patient contemplating whether or not to undergo knee surgery could change depending on whether the possible outcomes are framed in terms of losses (e.g., a 40% chance of being worse off than before) or gains (e.g., a 60% chance of regaining full functionality) (Suhler & Churchland, 2009). Research applying prospect theory has investigated the effects of framing on health decisions relative to many conditions, including breast self-examinations (Meyerowitz & Chaiken, 1987), participation in physical activity (Latimer et al., 2008), HIV testing (Apanovitch, McCarthy, & Salovey, 2003), sunscreen use (Detweiler, Bedell, Salovey, Pronin, & Rothman, 1999), exercise intentions (Jones, Sinclair, & Courneya, 2003; Jones, Sinclair, Rhodes, & Courneya, 2004), cardiac rehabilitation adherence (McCall & Martin Ginis, 2004), and smoking cessation (McKee, O'Malley, Steward, Neveu, Land, & Salovey, 2004).

Prospect theory holds some interest in certain aspects of return-to-play decision-making following sport injury; however, no research has applied the theory to this specific setting. Intuitively, it is possible that injured athletes who perceive themselves to

be in a domain of gains (e.g., they are confident in their position on the team; they have no fear of being cut, by-passed in team selection, or replaced) may be less likely to attempt to play through pain and injury than those who perceive themselves to be in a domain of losses. Athletes who are in a domain of losses (e.g., unsure of their status, isolated from their teammates, or depressed over their loss of physical activity) may choose to take risks and play through pain and injury to improve the situation that they perceive themselves to be in. Application of prospect theory to the decision-making of clinicians (e.g., athletic trainers, team physicians) is more difficult as the injury situation may not have as great an impact on clinicians' perceived frames. Prospect theory may have application in guiding how clinicians frame their communication regarding the risks and benefits of playing through pain and injury to athletes as such framing may influence athletes' decisions. However, this application is beyond the scope of this study.

Janis and Mann's (1977) conflict theory of decision-making has been applied in a limited capacity to medical decision-making. The conflict model was originally based on observations of decision processes of individuals caught up in natural disasters and highly stressful decision crises. In these situations, stress and decisional conflict was said to arise from the perceived magnitude of the losses decision makers anticipate as a consequence of whatever choices they make. These losses could be personal, material, or social losses to those affected by the decision, or losses of reputation and self-esteem of decision-makers if the decision goes wrong (Mann, Burnett, Radford, & Ford, 1997). In the conflict model, Janis and Mann (1977) state that decisional conflict can impede high-quality decision-making. According to the conflict model, there are five basic patterns of coping behaviors that affect the quality of decision-making. Only one of the patterns,

vigilance, results in thorough information gathering, unbiased evaluation of that information, and consideration of an array of alternatives characteristic of high quality decision-making.

The other four coping patterns are occasionally adaptive in saving time, effort, and emotional wear and tear if decisions are minor and do not have serious consequences; however, these patterns often result in defective decision-making when confronted with a vital choice that has serious consequences for the decision-maker or for those on whose behalf the decision is being made (Janis & Mann, 1977). These coping patterns include: a) hypervigilance – due to time pressure, the decision maker impulsively or hastily arrives at decisions based on a quick survey of the situation and a snap judgment about what is the best thing to do; b) defensive avoidance – the decision-maker escapes conflict by procrastinating or shifting the responsibility to make a decision to someone else; c) unconflicted change – decision-maker uncritically accepts whatever new decision is most strongly recommended by others; and d) unconflicted adherence – decision-maker ignores information about possible losses or risks and continues with the present course of action.

DiCaccavo and Reid (1995) investigated the applicability of the conflict model coping patterns among a sample of general practice physicians. Through semi-structured interviews they investigated the variables that influenced physicians' decisions about patient management and the strategies physicians utilized to reduce decisional conflict. They identified issues of time pressure, uncertainty about how to manage a patient, and individual patient characteristics (e.g., age, gender, social class, financial status) as variables that affected physicians' management decisions for their patients. In this study,

physicians resorted to hypervigilance when time pressures prevented them from closely considering the information presented in their patient consultations. Under time pressure, physicians stated they were forced to make hasty treatment decisions and resorted to reliance on first impressions, age, and gender as decision-making criteria for their patients rather than more relevant data. Physicians also resorted to defensive avoidance as a coping mechanism when faced with uncertainty about diagnoses and management decisions. That is, they deferred decisions by making follow-up appointments or referred patients to others for diagnosis or treatment thus shifting the responsibility for making decisions onto someone else.

DiCaccavo and Reid (1995) acknowledge the limited ability to generalize their findings due to their qualitative methodology; however, despite encouragement for future research with larger samples, it appears no subsequent studies have been done. Furthermore, the authors acknowledged potential self-presentation concerns in distinguishing what actually occurs in doctor-patient consultations versus what doctors are ready to admit takes place. The lack of subsequent research in medical decision-making using the conflict model is somewhat surprising; however, the applicability of only three of the five suggested coping patterns of the conflict model might have impacted its further use in medical decision-making research.

These theories seem to have limited ability to provide an adequate framework for the purposes of this study because they are either more appropriate for athletes' decision-making (prospect theory) or identifying coping patterns used in clinical decision-making (conflict theory) than in identifying factors that affect the decision-making process itself. Although this study is more interested in investigating the psychosocial pressures athletic

trainers encounter in clinical decision-making, these theories do highlight some of the complexities in understanding the clinical decision-making process.

To further understand the challenges athletic trainers face in making return-to-play decisions it is also important to examine how athletes perceive pain and injury.

The Pain and Injury Experience

Pain and injury are complex concepts. Unfortunately, there is no simple 1-to-1 relationship between tissue damage and pain perception. Rather, pain perception is the result of a multitude of social, cultural, biological, and psychological factors. Pain has been defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (Merskey & Bogduk, 1994). This definition highlights not only physical, but also psychological, experiences of pain.

Melzack and Casey (1968) identified a tri-partite model of pain that explains the interaction of the physical and psychological processes. In their model, pain is a result of three interacting dimensions. First, the sensory-discriminative dimension refers to the awareness of the intensity, location, and quality of pain. Second, the cognitive-evaluative dimension refers to one's ability to perceive and evaluate the pain, and then interpret the sensory information in light of past experiences with or knowledge about pain. Finally, the motivational-affective dimension of pain refers to the emotions evoked by the cognitive-evaluative dimension (e.g., fear, anxiety, or anger) and how these emotions motivate or govern responses to pain. All dimensions in the model are essential parts of pain experiences and interact to produce various types of pain behaviors. In this model, pain becomes a subjective experience that is unique to each individual.

The scope and complexity of pain perception relative to sport injury cannot possibly be covered completely in this section; however, a short, simplification of the process follows. Tissue damage in the body produces stimuli detected by nociceptive receptors in the skin, muscles, joint capsules, bone, blood vessels, peripheral nerve sheaths, meninges, and viscera (Galea, 2002). These stimuli are transmitted to the central nervous system (CNS) via small myelinated (A-delta) fibers and unmyelinated (C fibers) axons. These stimuli are transmitted along a number of ascending tracts (Smith, 1976) to various brain centers with some stimuli ultimately arriving at the somatosensory cortical regions in the brain where the location, intensity, and quality of stimuli are analyzed (Shankland, 2011).

The transmission of these noxious stimuli can be modulated by a number of neural influences. The gate control theory of pain (Melzack, 1986; Melzack & Wall, 1965) assumes that the substantia gelatinosa of the dorsal horns of the spinal cord contains a neural mechanism that can act to gate the flow of pain stimuli to the brain. The flow of sensory input along low-threshold afferents of the CNS can act to inhibit, or "close the gate," to pain stimuli. This process can be seen in one's natural inclination to immediately rub a body part that has been injured (e.g., a shin that hits the coffee table while walking through the house in the middle of the night) in an effort to reduce pain. Additionally, central descending inhibitory systems arising from the cortex, hypothalamus, periaqueductal gray matter, nucleus raphe magnus and other anatomical structures can further modulate the transmission of pain stimuli (Shankland, 2011). For example, dissociation or distraction techniques such as listening to music (Klassen, Liang,

Tjosvold, Klassen, & Hartling, 2008) or immersive virtual reality gaming (Hoffman et al., 2011) can lessen pain perception.

Furthermore, the cognitive-evaluative and motivational-affective dimensions of pain are greatly affected by cultural, ethnic, social, and psychological influences. Cultural and ethnic norms regarding the interpretation and expression of pain vary greatly (Cintron & Morrison, 2006; Edwards, Moric, Husfeldt, Buvanendran, & Ivankovich, 2005; Zatzick & Dimsdale, 1990). For example, Shankland (2011) states that Middle Eastern men are not only permitted, but expected to engage in pain behaviors that would be labeled as exaggerated reactions by many in the West. Normative pain behaviors are frequently learned through social modeling (Craig, 1975) with children often replicating the pain behaviors of their parents (Lester, Lefebvre, & Keefe, 1994; Schanberg, Anthony, Gil, Lefebvre, Kredich, & Macharoni, 2001; Unruh & Campbell, 1999). Gender stereotyping can impact the interpretation and expression of pain (Robinson et al., 2001), as can religious beliefs (Koenig, McCullough & Larson, 2000; Mueller, Plevak, & Rummans, 2001). Past pain experiences, mood states, fear and anxiety, or the perceived significance of the pain stimuli also contribute to pain interpretation and expression (Shankland, 2011).

Collectively, it is apparent that even though each person has the same anatomical structures for pain transmission, the overall pain experience is a very complex, personal, and individualized process. What makes the pain experience so complex is the fact that it involves perception as well as sensation. Therefore, individuals sustaining identical injuries, in terms of tissue pathology, may respond to that injury in very different ways. For example, two athletes may sustain identical 2nd degree ankle sprains from a tissue

pathology perspective; however, as a result of different perceptual and behavioral responses, one athlete may tolerate the injury better and return to play in two weeks while the other athlete may proceed more slowly taking more than a month to return. Clinicians must remain mindful of the fact that pain is not a reliable indicator of tissue damage and that tissue damage is not a reliable indicator of pain (Eccleston, 2001).

This complexity creates challenges for athletic trainers in their clinical decision-making since athletes will all have individualized pain responses and behaviors. The culture in which athletes experience pain and injury further challenges athletic trainers in making clinical decisions.

The Sporting Culture

Prior to the 1990s, little sociological research into injury within the sport culture existed primarily because injury was considered to be the domain of sport medicine professionals (Roderick, 2006). In one of the first sociological studies on the physical health aspects of the sport culture, Nixon (1992) described sport as a 'culture of risk' that rationalizes and normalizes injury and playing with pain. He identified a social network of people, labeled a 'sportsnet' that included coaches, teammates, owners, medical staff, agents, and others that frequently interact with athletes. Nixon (1992) claimed that the sportsnet is driven to produce winning teams above all else and as a result perpetuates a culture of risk by sending implicit and explicit messages encouraging athletes to take risks and play through pain and injury. As a result, Nixon (1992) claimed that medicine in the sport environment is practiced differently, often less competently and less ethically, than outside of sport. According to Nixon (1992), athletes, when injured, will most likely turn to members of this network to seek advice about playing with pain and injury. Thus,

this network becomes a conspiratorial alliance that insulates athletes and discourages them from seeking medical care outside of the sportsnet following injury. When this alliance is large, shares similar beliefs about playing with pain and injury, and is hired by a central administrative structure, its power to influence athletes' beliefs and behavior is magnified. As athletes advance in their sport, contacts with people outside this sportsnet become less frequent and less meaningful (Nixon, 1992) and athletes are socialized into thinking that concealing pain and playing through pain and injury is normal and expected behavior (Curry, 1993; Krane, Greenleaf & Snow, 1997; Malcom, 2006).

Hughes and Coakley (1991) include this normalization of pain as an element of their sport ethic. They define the sport ethic as "a set of norms accepted as the dominant criteria for defining what is required to be defined and accepted as an athlete in power and performance sports" (Coakley, 2007, p. 161). Four defining features outline the normative behavior expected of an athlete including: 1) making sacrifices for The Game, 2) striving for distinction, 3) accepting risks and playing through pain and 4) refusing to accept limits in the pursuit of possibilities (Hughes & Coakley, 1991). Hughes and Coakley (1991) theorize that athlete conformity to these norms is distributed along a continuum of behaviors with everyday athlete behavior falling in the middle of the continuum. Behaviors along the left end of the continuum reflect rejection or dismissal of the norms (e.g., faking an injury to avoid a hard workout) and have been termed under-conformity or negative deviance. Behaviors falling along the right end of the continuum reflect acceptance of the norms unconditionally or without boundaries (e.g., hiding injury from athletic trainers in order to continue participating) and have been termed over-conformity or positive deviance.

Applying the sport ethic continuum to athlete behaviors relative to playing with pain and injury can be represented as in Figure 1. This figure is derived from the literature on athlete behaviors in response to pain and injury combined with the researcher's 25 years of professional athletic training experience working with collegiate, high school, and youth athletes. "Normal" athletes have been described as gamers (Kotarba, 1983) – athletes who understand that participation in sport comes with some pain and discomfort. While gamers can fall anywhere from the middle to the far right on the sport ethic continuum, "conforming" gamers are characterized by an ability to understand the differences between pain that is benign to health (i.e., "good pain") and the pain that signals potentially damaging health consequences (i.e., "bad pain"). Conforming athletes are tolerant of some discomfort during athletic participation but report injuries and pain to the athletic trainer in a timely manner and under appropriate circumstances. These athletes are then adherent to the medical decisions of the athletic trainer and compliant with rehabilitation plans, even if that means sitting out to allow time for injuries to heal. These athletes are very accurate and realistic in their assessment of injury risk (Anderson, 2007) and consider the potential for long-term health consequences before making short-term decisions regarding playing with pain and injury.

Rejecting or dismissing what is defined as normative behavior regarding the acceptance of risks and playing through pain and injury characterizes under-conforming athletes. These athletes are defined as non-gamers (Kotarba, 1983) and are relatively intolerant of or unable to identify 'normal pain' of physical activity, such as bumps and bruises, delayed onset muscle soreness, discomfort of intense physical activity, or pain of fatigue. Instead, these athletes report all cases of discomfort to the medical staff. These

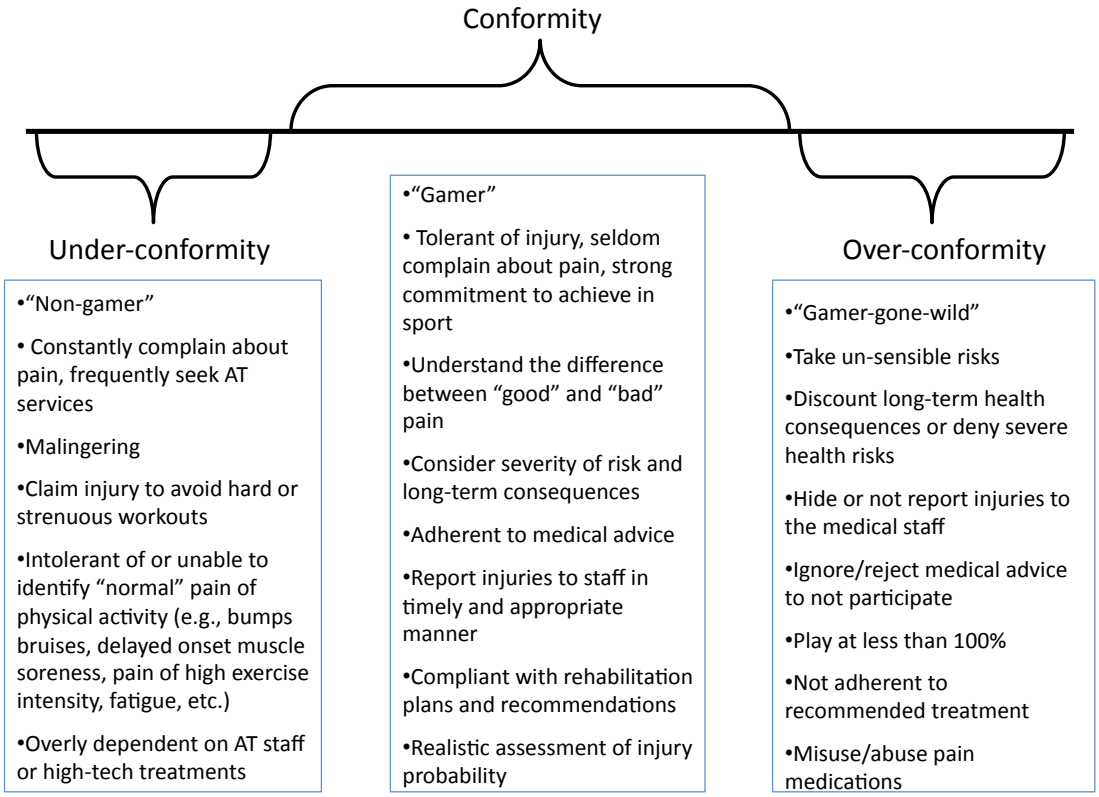

Figure 1. An athletic trainer's view of athlete behaviors reflective of the sport ethic continuum. The horizontal line represents the continuum of sport ethic behaviors. The text boxes describe athlete behaviors reflective of each category of conformity behavior.

behaviors may be intentional, such as athletes who malinger to avoid the pain associated with athletic participation or who claim injury in order to avoid hard or strenuous workouts (Walk, 2004). Under-conforming behaviors may also be unintentional; however, such as in very young or novice athletes who have no comparative framework by which to judge the severity or meaning of the pain they are experiencing. In both cases, under-conforming athletes often consume a great deal of athletic trainers' time by naively seeking treatment, being overly dependent on athletic trainers during rehabilitation or insisting on modalities or high-tech treatments that are not clinically indicated (Walk, 1997). This time demand becomes increasingly challenging when these athletes' concerns are actually benign to both their short and long-term health.

Over-conforming athletes can be described as gamers-gone-wild. These athletes throw out concern for long-term health in favor of short-term gain and participation. These athletes may hide or not report signs and symptoms of athletic injury to the athletic training staff (Pike & Maguire, 2003; Waldron & Krane, 2005; Walk, 2004; Young & White, 1995; Young, White & McTeer, 1994) often to the detriment of their long-term health. If these athletes do report injuries to athletic trainers, they often disregard or show indifference to medical advice to rest or temporarily halt participation to allow healing (Krane et al., 1997; Walk, 2004), again to the potential detriment of short or long-term health. In order to play through their pain and injury, these athletes may misuse or abuse pain medications (Shaffer, 1996; Tricker, 2000; Young & White, 1995; Young et al., 1994) or insist on playing at less than 100% capacity, feeling that this is still a higher level than their replacements (Young et al., 1994). These athletes discount or deny

potential long-term health consequences of their decisions to play through pain and injury regardless of the likelihood of additional harm (Anderson, 2007; Safai, 2003).

Hughes and Coakley (1991) hypothesized that over-conformity to the sport ethic can lead to behaviors that harm either the athlete or others around them. More specifically, they theorize that higher levels of over-conformity, especially to the norm of accepting risk and playing through pain, could increase the risk of sport injury. Interestingly, the prevalence of sport ethic over-conformity behaviors in sport has received little quantitative study. Tricker (2000) in a study of 165 National Collegiate Athletic Association Division I (NCAA, D-I) student athletes found that 29% of the participants saw nothing wrong with using painkilling drugs on the day of competition to cope with pain. Twenty-nine percent also indicated they would be willing to use painkilling drugs to mask injury in order to continue playing. Surprisingly, 55% of the athletes in this study self-reported that they overused pain-killing drugs. Tricker (2000) concluded that norms related to a win-at-all-cost mentality are taken to heart by collegiate athletes, and many indicate a willingness to misuse or abuse pain medications to mask pain and risk further injury just to win.

As a result of the scarcity of research on the prevalence of sport ethic over-conformity, there is also minimal research on the relationship between over-conformity behaviors and injury risk. Nippert (2005), in a quantitative pilot study to her dissertation, investigated female adolescent gymnasts' perceptions of playing through pain and injury. She used the Direct Coping subscale of the Sport Inventory for Pain (DC-SIP; Meyers, Bourgeois, Stewart & LeUnes, 1992) as a measure of high school gymnasts' willingness to play through pain and reflecting their degree of conformity to the sport ethic. The

Direct Coping subscale measures individuals' coping ability when faced with pain and discomfort in their sport performance. It includes items such as, "I see pain as a challenge and don't let it bother me." Or "When I am hurt, I just go on as if nothing happened." Nippert found that gymnasts scoring higher on the DC-SIP self-reported "many" versus "moderate" or "few" injuries. She concluded that female youth gymnasts expressing greater willingness to play through pain, reflective of greater sport ethic conformity, also experienced more injuries.

Shipherd (2010) found a similar relationship between over-conformity behavior and injury in male (n=98) and female (n=105) adolescent athletes (ages 13-18, N=203) representing ten different sports. She used a self-designed Sport Attitude Questionnaire (SAQ) to quantify the participants' degree of over-conformity behavior and the reasons for their behavior. She found significant differences in the injury rate and severity among athletes who scored high versus low on the SAQ. Adolescent athletes who self-reported greater behavioral conformity to the sport ethic experienced more injuries and more severe injuries than those reporting lower behavioral conformity.

Furthermore, Kenow and Wiese-Bjornstal (2010) reported preliminary evidence of a similar relationship between sport ethic over-conformity and sport injury in collegiate athletes. They used the Risk Behavior Conformity in Sport Injury Questionnaire (RBCSI; Kenow & Wiese-Bjornstal, 2010) to quantify sport ethic conformity behaviors in a sample of 343 NCAA D-III athletes. This inventory includes items such as, "Continued sport participation against the recommendation of medical professionals," and "Made an injury worse by continuing to play rather than taking time off." Participants were asked to respond on a 5-point Likert scale regarding how

frequently they have engaged in such behaviors in the past, and again on a 5-point Likert scale regarding how likely they are to behave in that way in the future. Kenow and Wiese-Bjornstal found that injured athletes had higher scores on the past behaviors scale than non-injured athletes suggesting that injured athletes engaged in greater sport ethic conformity behavior than non-injured athletes. They also found that injured athletes had significantly higher scores on the self-predicted future behaviors scale than non-injured athletes suggesting that injured athletes expressed a greater likelihood to engage in sport ethic conformity behaviors in the future than non-injured athletes. Thus, there appears to be some indication that greater conformity to the sport ethic is associated with greater risk of injury.

It seems odd then that athletes would willfully subject themselves to this increased risk; however, athletes do accept the risks associated with playing through pain and injury for a number of reasons. Nixon (1992) suggested that the sportsnet's conspiratorial alliance is a driving force for this type of athlete risk-taking behavior in sport. In a study of 156 NCAA D-I athletes, participants said they felt pressed to play hurt by their coaches (49.4%), teammates (41%), and athletic trainers (17.3%) (Nixon, 1994). Males, regular line-up players and white athletes were more likely to feel pressed to play hurt by their coaches and fans than female, non-regular players, or other ethnic groups (Nixon, 1996). A number of qualitative studies have also indicated that pressure from the sportsnet contributed to decisions to play through pain and injury among male and female professional, university and elite-level athletes across a number of sports (Bianco, 2001; Charlesworth & Young, 2004, 2006; Krane et al., 1997; Murphy & Waddington, 2007; Podlog & Eklund, 2006, 2007b; Young et al., 1994). Although these studies support

Nixon's contention that the sportsnet contributes to risky athlete behavior regarding playing with pain and injury, research has shown that athletes play through pain and injury for reasons beyond the influence of the sportsnet.

For example, athletes are influenced to play through pain and injury by social forces such as, conforming to the hegemonic ideal of masculinity (Curry, 1993; Young et al., 1994), desiring to maintain a sense of identity as an athlete (Charlesworth & Young, 2004; Malcom, 2006; Pike & Maguire, 2003; Podlog & Eklund, 2006), feeling an obligation to and sense of fraternity with the team (Charlesworth & Young, 2004; Hughes & Coakley, 1991; Johns, 1998; Pike & Maguire, 2003; Podlog & Eklund, 2006; Young & White, 1995), desiring to show character, commitment or courage (Tracey & Elcombe, 2004; Young & White, 1995), and being remembered for athletic achievement (Charlesworth & Young, 2004; Pike & Maguire, 2003; Shaffer, 1996). Situational influences, such as the "last chance" to compete (Nippert, 2005; Safai, 2003; Walk, 1997), a chronic sense of time urgency (Roderick, 2004), desire to avoid missing important competitions (Bianco, 2001; Gould et al., 1997; Podlog & Dionigi, 2010), or an intrinsic love of the game (Podlog & Eklund, 2006; Shaffer, 1996; Walk, 1997) also drive athletes to push through pain and injury. Fears of losing playing time, status or position (Bianco, 2001; Charlesworth & Young, 2004; Malcom, 2006; Nippert, 2005; Pike & Maguire, 2003; Podlog & Eklund, 2006; Shipherd, 2010; Young & White, 1995; Young et al., 1994) or being labeled as "weak" (Pike & Maguire, 2003; Waldron & Krane, 2005; Young & White, 1995; Young et al., 1994) further motivate athletes to continue participation despite pain and injury. Advancements in medical technology, while improving the care athletes receive following injury, also create a false sense of security

in manufactured braces that encourages athletes to play through pain and injury (Bauman, 2005; Mazer et al., 2010; Pike & Maguire, 2003).

Interestingly, Pike and Maguire (2003) identified the lack of an integrated system of health care among factors contributing to injury risk in amateur female rowers. In situations where medical staff were not readily available to athletes, decisions regarding the rowers' ability to participate with injury were left to untrained athletes and coaches. Similar concerns regarding the lack of medical expertise at high school and youth sporting events have been voiced (Valovich McLeod et al., 2011). Charlesworth and Young (2004, 2006) found that among female athletes in multiple sports the availability and quality of medical and rehabilitation services were less than among male athletes. This insulation from proper medical advice perpetuates the culture of risk in sport in that medical advice from untrained individuals, who have a vested interest in competitive success in sports (e.g., fellow athletes, coaches), may unintentionally or intentionally convey a biased preference to continue competing through injury so the team succeeds versus a realistic appraisal of the potential health consequences of playing through pain and injury (Nixon, 1992, 2004).

When sports medicine practitioners were present in the sport culture, their role and influence on objective risk assessments in return-to-play decisions was largely ignored in early sociological studies (Roderick, 2006). One of the first sport sociology studies investigating sports medicine practitioners' roles in and views of the sport culture examined the experiences of athletic training students as a component of Nixon's 'sportsnet' (Walk, 1997). Twenty-two athletic training students (ATS) at a large NCAA D-I university in the Midwest United States were interviewed. While ATS did

unanimously admit that injury happens in sport, they became defensive at the suggestion that sport is overly injurious and sports medicine personnel, in particular athletic trainers, were morally culpable for that fact as part of Nixon's sportsnet. ATS claimed instead that they provided a safe haven against coaches and teammates who might pressure an athlete into playing through pain and injury. Some participants even admitted to facilitating under-conformity to the sport ethic by allowing athletes, who were also friends, to rest from strenuous team activities under the false pretense that they were injured. The ATS did acknowledge some temptation to hide or withhold information regarding injuries from their supervising athletic trainers so friends could play; however, they more frequently countered unhealthy decisions by coaches and/or athletes regarding playing with injury by disqualifying athletes from participation until injuries were sufficiently healed.

ATS in this study stated they felt divided loyalties in their work with injured athletes. On the one hand they felt an alliance with the student athletes they served because of friendships that developed with these peers. On the other hand, they also perceived an alliance with the medical staff (e.g., certified athletic trainers, team physicians) against athletes, coaches or administrators who made delivery of medical services difficult. These competing alliances created challenges in treating and making return-to-play decisions for injured athletes because ATS often felt they were stuck in the middle of the competing desires of their friends, their supervising athletic trainers, and the coaches. Overall, the ATS acknowledged that the conspiracy ideology of Nixon's (1992) sportsnet occurs in some places, but stated it was an inappropriate and inaccurate

leap to assume it happens in all athletic training settings since they felt it did not occur in their particular, albeit limited, experiences (Walk, 1997).

The Walk (1997) study had several limitations. First, it investigated the perceptions of ATS at only one institution thus limiting the ability to generalize the results to all athletic training environments. Second, it only investigated the perceptions of ATS and did not include the perceptions of certified athletic trainers. It is possible that athletic trainers who have more professional experience will have different opinions regarding the culture of risk and the athletic trainers' role in it.

Safai (2003) investigated the perceptions of sports medicine clinicians at a Canadian university regarding the proposed culture of risk (Nixon, 1992) in sport. Using qualitative interviews and focus groups with student athletes and sports medicine clinicians, Safai (2003) found that the sports medicine staff at this university resisted the promotion and tolerance of injury as a normal part of sport. Rather, the medical staff sought to create what was termed a "culture of precaution" that resisted or at least tempered the promotion and tolerance of injury as normal in high-level sports. Safai (2003) found no evidence that sports medicine clinicians deliberately reinforced or promoted the culture of risk, but instead found that they prioritized health over performance and made decisions and recommendations regarding playing through pain and injury based on a thorough understanding of the risks and benefits of participation in each unique injury situation. She defined this process as the negotiation of treatment that involved weighing the perceived risks against the perceived benefits of continuing to play when injured. Participation decisions were thus made based on what she calls 'sensible risks' that took into account the long-term health and well-being of the athlete rather than

just the short-term goal of returning to play as soon as possible. Sensible risks facilitate re-entry into competition based on physical, psychological and emotional readiness attained through athlete-clinician collaborative goal setting for recovery and corroborated by functional assessments of the athletes' physical and mental health.

Negotiating sensible risks in the sport culture reverberates with Anderson's (2007) description of 'doctoring risk' among sports medicine physicians. Anderson states the predictions of potential harm that could come from playing through pain and injury are probabilistic (i.e., there is a chance for further harm or injury occurring and a chance it will not). Risk can then be defined as a quantifiable product of the probability of bodily harm times the severity of bodily harm (Anderson, 2007; Bunch & Dvonch, 2004) and can be represented on a 2-dimensional grid as seen in Figure 2. In negotiating risks in the sports medicine setting, clinicians must calculate how likely it is that harm will occur if the athlete was to participate and how severe that harm would be if it were to occur.

Based on these calculations, the grid of risk could be divided into 4 quadrants. In quadrant I, where the likelihood of harm is low and the severity of harm is also low, athletes are often allowed to participate with minimal risk negotiation. Quadrant II, where the likelihood of harm is still low, but the severity of potential harm is moderate to high, could be viewed as encompassing the kinds of risks athletes face daily in contact sports (e.g., football, ice hockey, rugby). In these cases, clinicians often educate athletes about the potential risks, encourage the use of safeguards and protective equipment, and allow athletes to compete. In Quadrant III where there is a high likelihood of harm, Anderson (2007) suggests clinicians strive to fully educate athletes of the high likelihood

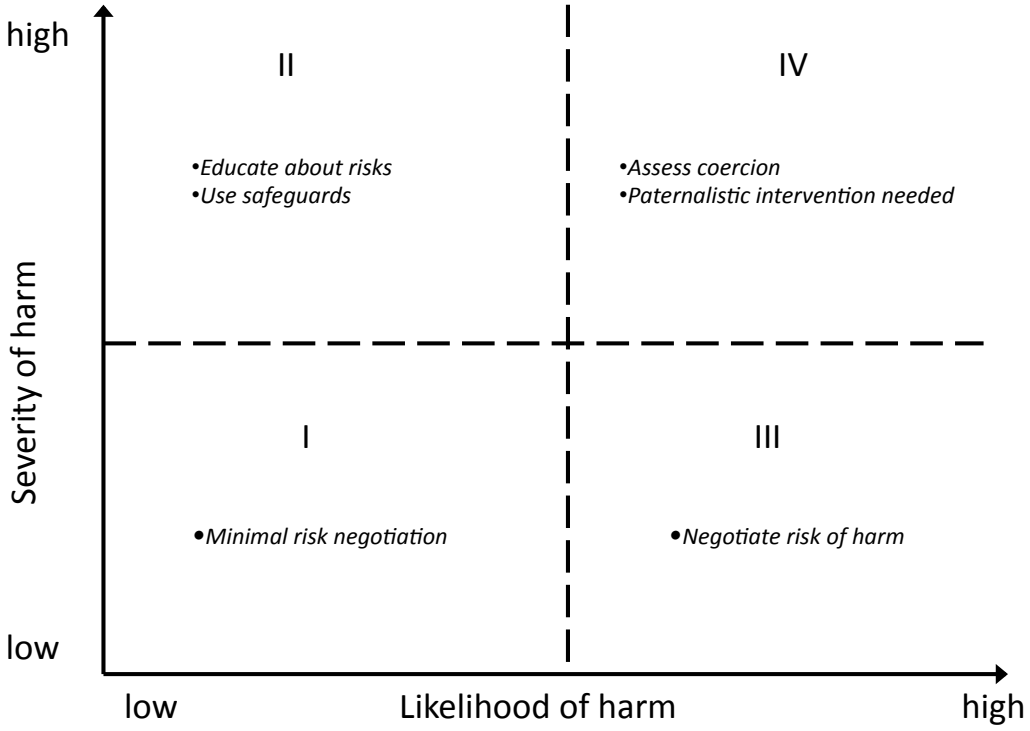

Figure 2. Calculation of risk grid as a product of injury likelihood x injury severity. The roman numerals serve to label each of the four quadrants based on the likelihood x severity interaction. Adapted from "Doctoring risk: Responding to risk-taking in athletes," by L. Anderson, 2007, *Sport, Ethics, and Philosophy, 1,* p. 128. Copyright 2007 by Routledge. Adapted with permission.

of harm. Although the severity of that harm may be low, clinicians often attempt to negotiate with athletes in these situations regarding decisions to participate. Finally, Quadrant IV involves a great deal of risk negotiation. The moderate to high likelihood of moderate to severe harm for athletes requires the clinician to educate athletes about the potential risks and make sure that athletes' desires to participate in these situations are not coerced by pressure from coaches or management, or by fear of financial loss or position status if they do not play. In these situations, external variables such as, the last chance to make an Olympic team or the last game of an athlete's career, sometimes mediate the desire to play. Anderson (2007) emphasizes the need for clinician intervention in many of these situations, particularly those positioned in the extreme upper right corner of this quadrant (e.g., an athlete desiring to play despite still having apparent signs of a concussion) in order to protect the athlete from long-term or catastrophic harm.

Balancing long-term health against short-term goals of participating as soon as possible following injury is not a new concept. Mathias's (2004) essay on the history of ethics in sports medicine points out that time and again over the history of sport, sports medicine practitioners have defended the view that health considerations should limit the lengths to which some may go in order to win in sport. "Hippocrates and Galen ultimately rejected the athletic lifestyle because they believed that sport demands excessive conduct in the pursuit of its aim, victory, whereas medicine demands moderation in pursuit of its aim, health" (Mathais, 2004, p. 200). These same challenges persist in sport today when the mentality of win-at-all-cost conflicts with the long-term health and well-being of an athlete.

Lurie (2006) states that sports medicine practitioners, when managing athletes' participation with pain and injury, must find a narrow ethical path between two athletic virtues: moderation and hubris (defined as passion and pride to exceed what is normal and ordinary). Finding this narrow path requires clinicians to assess and negotiate risk. However, Lurie (2006) suggests that risk goes beyond the statistical probability of injury (Anderson, 2007; Bunch & Dvonch, 2004). He suggests an emotional component, similar to being in love, also contributes to risk-taking behavior in athletes. As in love, the more committed an athlete is to their sport, the more they care about it, the more passionate they are to be with it, and the more willing they are to take risks to participate in it. Lurie (2006) proposes a need for sports medicine practitioners to strike a balance between this hubris and moderation when making decisions regarding athletes' participation with pain and injury. Too much moderation in making decisions regarding playing through pain and injury and athletes fail to excel, but too much passion or hubris in these decisions and injury is sure to follow.

Following Weiss's (2008) call to identify commonalities across theories, Figure 3 illustrates a model proposed by the author of the sport culture and the athletic trainer's position in it. There is a continuum of behaviors in which athletes engage when it comes to playing with pain and injury as dictated by the horizontal axis. Somewhere along the mid-range of this continuum is a set of behaviors that are considered 'normal' by societal standards. That is, there is conformity to the norms of the sport ethic (Hughes & Coakley, 1991) but not at the expense of excessive injury or long-term health consequences. Athletes may be allowed to play with some pain or through some injury, but there is a balance between hubris and moderation (Lurie, 2006), and the risks that are assumed in

these cases seem to be sensible (Safai, 2003, 2004). Athletic trainers facilitate this range of behavior in the athletes with whom they work, by making return-to-play decisions that would be considered ethical (Lurie, 2006).

Along the right end of the continuum, athletes engage in unsensible risks (Safai, 2003) caused by over-conformity to the norms of the sport ethic (Hughes & Coakley, 1991) and an over-abundance of hubris relative to moderation (Lurie, 2006). In these situations, sports do become a culture of excessive risk (Nixon, 1992) to the long-term health and well-being of athletes. Athletic trainers discourage this type of behavior, but may feel pressed by external and internal socio-cultural influences to allow this behavior when a great deal of clinical uncertainty (Malcolm, 2009) is present.

At the left end of the continuum, are behaviors where athletes tend to be over-cautious about returning to play following injury. They tend to under-conform to the normative behavior outlined in the sport ethic (Hughes & Coakley, 1991) by over-reporting injuries, faking injuries to avoid strenuous work (Walk, 1997), or allowing fear of re-injury to interfere with returning to participation (Morrey, Stuart, Smith, & Wiese-Bjornstal, 1999; Podlog & Eklund, 2004, 2006, 2007a, 2007b). Athletes may also under-conform to the sport ethic norms due to inexperience with sport injury and the physical discomfort that often accompanies sport excellence. Developmental immaturity, such as young athletes, and the desire to protect young bodies from early physical harm may also result in under-conformity behavior. Older athletes may adopt less tolerant attitudes regarding pain that can accompany athletic excellence, or encounter joint degeneration that may require a more cautious approach to pain. Moderation exceeds hubris (Lurie, 2006) in these situations and sometimes appropriately so. In all cases, athletic trainers

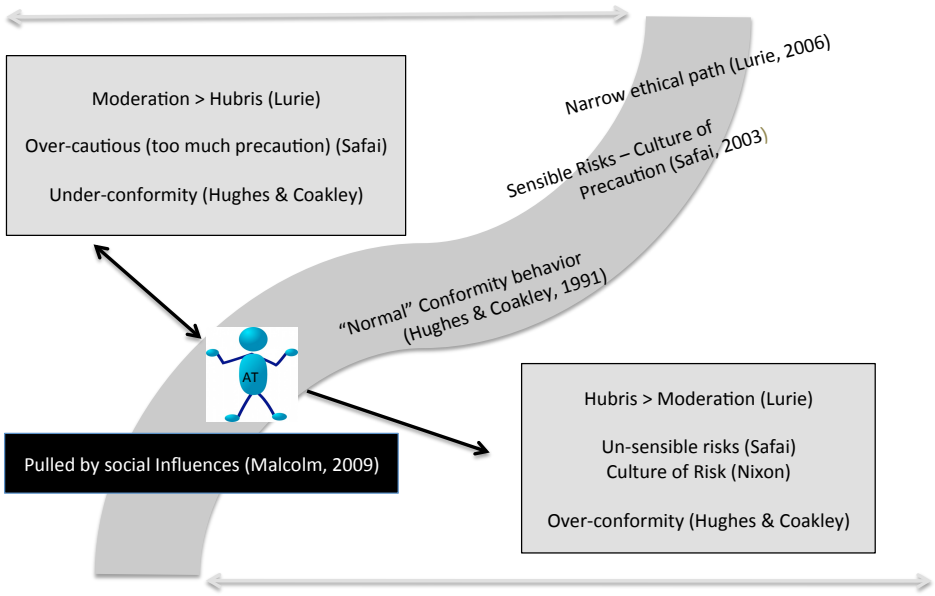

Figure 3. A model of the athletic trainer's position in the sport culture. The horizontal continuum reflects the range behaviors in which athletes may engage when it comes to playing with pain and injury. The curved path represents the narrow ethical path athletic trainers must follow in making return-to-play decisions for injured athletes. The left side of the path represents the under-conformity side of the behavioral continuum, and the right side of the path represents the over-conformity side of the behavioral continuum.

are often challenged to educate the athlete on the differences between benign and significant pain experiences and the true risks of participation. The time demands created by these athletes can frustrate athletic trainers (Walk, 1997, 2004), who are often already stretched thin by their work demands. Athletic trainers may use education to draw these athletes closer to the developmentally appropriate mid-range of the behavioral continuum. Occasionally, socio-cultural influences (Malcolm, 2009) press athletic trainers to engage in overly cautious decision-making regarding athletes' return-to-play, such as with very young athletes or athletes who have not been truthful in expressing symptoms in the past.

Athletic Trainers' Role in the Sport Culture

In these competing cultures of risk and precaution, or moderation and hubris, athletic trainers seek to practice their craft. It has already been pointed out that the primary responsibility of athletic trainers is to minimize the risk of injury (Prentice, 2014). This includes oversight of the modifiable factors that predispose athletes to initial injury (Cameron, 2010), as well as carefully negotiating risks with injured athletes in the return-to-play process.

The National Athletic Trainers' Association Code of Ethics (NATA, 2005) outlines the high standards and professionalism that are expected in the practice of athletic training. Specifically, the Code of Ethics dictates, "members shall be committed to providing competent care" (1.2). The expectation of competent care is further described in the Board of Certification (BOC) Standards of Professional Practice (BOC, 2006), a document outlining the duties and obligations imposed by virtue of holding the certified athletic trainer credential. The Standards of Professional Practice state the expectation that "the Athletic Trainer follows standardized clinical practice in the area of

diagnostic reasoning and medical decision making" (p. 2). It further defines standardized clinical practice as an emphasis on the primacy of the patient. Specifically, the Standards state that the athletic trainer:

> 1.2 Protects the patient from harm, acts always in the patient's best interests and is an advocate for the patient's welfare
>
> 1.3 Takes appropriate action to protect patients from Athletic Trainers, other healthcare providers or athletic training students who are incompetent, impaired or engaged in illegal or unethical practice…
>
> 1.7 Exercises reasonable care, skill and judgment in all professional work (BOC, 2006, p.3).

Thus, the principle of non-malfeasance (i.e., do no harm) is implicit in both the code of ethics (NATA, 2005) and standards of professional practice (BOC, 2006). The expectation of athletic trainers to do no harm also imposes a duty to monitor and minimize risk for injury through diligent thoughtfulness and careful action when confronting risk situations (Parry, 2006). Athletic trainers have an ethical and professional obligation to protect the athletes from the proposed 'culture of risk' in competitive sport and foster and promote a culture of precaution and engagement in negotiating sensible risks (Safai, 2004).

Ethical Challenges of Sport Culture

While these expectations seem black and white, the actual practice of sports medicine in general, and athletic training specifically, involves many shades of gray. "There are no clear-cut answers to how clinicians negotiate the 'culture of risk' with their patient-athletes, just continuous weighing of the perceived risks and benefits of playing

and/or not playing with pain" (Safai, 2004, p. 277). Schlabach and Peer (2008) stated that the professional ethos of athletic training (i.e., the values, norms and beliefs of the profession) is not stagnant. Rather it evolves over time as internal and external variables influence the maturation of the profession. Social, cultural and historical changes provide external influences on the norms, values and beliefs of the practicing athletic trainer. For example, external influences such as the litigious climate in society today; the technological advances in medicine, taping and bracing; and the diversity of the athlete population served by athletic trainers all impact the expectations of how to best protect and advocate for the athlete. Similarly, internal influences of the athletic training profession, such as changes in educational guidelines, diversification in athletic training job settings, and increasing diversity in athletic training membership, also contribute to changes in the norms, values and beliefs held by those in the profession collectively.

Very little research exists in athletic training regarding the ethics of protecting athletes from the risky environment in sport. A greater body of work exists regarding the ethical challenges facing sport team physicians; however, most of this work is prescriptive, rather than empirically based, and often focuses on individual experiences. Nonetheless, several applicable ethical challenges for sports medicine physicians' interactions with injured athletes have been highlighted.

First, sports medicine physicians are confronted with competing obligations. In sports medicine, physicians have divided loyalties to the athletes' health and well-being, to the organization or team that hired them, and also to the ideals of practicing quality medicine (Bernstein, Perlis & Bartolozzi, 2000, 2004; Dunn, George, Churchill & Spindler, 2007; Johnson, 2004a; Lurie, 2006, Testoni, Hornik, Smith, Benjamin, &

McKinney Jr., 2013). These competing obligations create challenges in balancing the goals of patient health with the goals of winning in sport (Johnson, 2004a; Salomon, 2002). "One of the most fundamental ethical problems to emerge in modern sports medicine, then, involves sports physicians themselves placing the demands of sport ahead of the demands of health" (Mathias, 2004, p. 208). Physician concerns over maintaining job security while sometimes making unpopular medical decisions regarding participation for injured athletes can tempt them to deviate from the ethical path (Johnson, 2004b, Testoni et al., 2013).

Additionally, in some sport situations economic consequences for removing an injured athlete from participation can be profound (Johnson, 2004a). Professional athletes could lose salary, bonuses, or endorsement contracts when held from practice and/or competition. Scholastic athletes may miss out on opportunities for athletic scholarships if they are held from participation during prime recruiting times. Medical personnel are sometimes offered financial bonuses based on team performance (Anderson, 2009; Malcolm, 2006; Shrier, Charland, Mohtadi, Meeuwisse & Matheson, 2010). Holding key athletes from competition could impact both physicians' and athletes' chances at financial gain. These economic consequences can serve as a source of pressure for physicians making decisions regarding participation.

Concerns over athlete autonomy and physician paternalism also create ethical challenges between the athlete's right to play hurt versus the physician's obligation to negotiate risk. Bunch and Dvonch (2004) state that athletes often miscalculate the risks associated with playing through pain and injury. When counseled on the varying levels of risk in participation following injury, athletes simply hear the option of "play" or "no-

play" and tend to choose play regardless of the risks described. As mentioned earlier, the sports medicine practitioner has an ethical obligation to adhere to the principle of non-malfeasance, which in these cases may only be preserved by exercising paternalism over athletes' ill-advised decisions to play. Some have argued that even if a physician disqualifies athletes from participation for medical reasons, athletes' autonomy is still preserved (Stovitz & Satin, 2006). Stovitz and Satin (2006) argue that by choosing to participate in a particular sport at a particular institution, athletes have exercised their autonomy – they have chosen and agreed to abide by that team's policies and decisions. Thus, any paternalism that is exercised in return-to-play decisions is simply a manifestation of the policies of the team for which athletes have chosen to compete. Furthermore it is important to bear in mind that patient autonomy to participate does not guarantee that athletes will be granted that opportunity in every situation. If athletes are disqualified from participation for medical reasons, they still possess the right to participate in their sport – it would just have to be at a different institution or on a different team (Piantanida, Oriscello, Pettrone & O'Connor, 2004).

A further ethical challenge inherent in deciding whether or not an athlete should play with pain and injury involves the issue of informed consent. Controversy abounds due to the above-mentioned tendency of athletes to miscalculate risk in playing through pain and injury. Full disclosure of all risks, benefits and options for treatment is difficult to do in the heat of sport competition (Johnson, 2004a). Often, sports medicine personnel when treating athletes in the middle of a game must make split second decisions on future participation. In these cases, it is doubtful whether athletes have received full information on treatment options and therefore cannot truly give informed consent

(Bunch & Dvonch, 2004). Furthermore, some have argued that athletes' decisions to play through pain and injury are rarely made voluntarily due to the internal (e.g., desire to play and compete, sense of obligation to team) and external (e.g., pressure from coaches, teammates, agents, financial incentives) pressures either overtly or covertly exuded on athletes (Bunch & Dvonch, 2004; Dunn et al., 2007; Salomon, 2002, Testoni et al., 2013).

Another ethical challenge facing sports medicine team physicians in their decisions regarding athletes participating with pain and injury is the temptation to become a fan of the team for which they work. Salomon (2002), Johnson (2004a), and Devitt and McCarthy (2010) suggest that strong emotional ties to the team's success result in decisions that are neither ethical nor medically sound. They state that "fandom" can cause a loss of objectivity in managing injury to athletes and making decisions about participation following injury.

Johnson (2004a) describes another ethical dilemma for sports medicine physicians. Return-to-play decisions following sport injury are often a two-edged sword. If physicians return athletes to play too quickly, athletes may aggravate their injury or sustain new injuries resulting in the athletes' loss of trust in their physician's decision-making ability. However, if physicians withhold athletes from participation for too long following injury, athletes become hesitant to report injury or pain to avoid being held from participation for a prolonged period of time. Thus, the process of negotiating sensible risks while working with athletes desiring to play through pain and injury is rife with ethical challenges.

These ethical challenges for sports medicine physicians are similar, if not magnified, to those confronting athletic trainers. Athletic trainers have more frequent

contact with athletes, coaches, administrators, and/or owners than sports medicine physicians ever do. These closer and more frequent interpersonal ties intuitively suggest that ethical challenges (e.g., competing obligations, fandom, informed consent, and return-to-play decisions) are more acute for the athletic trainer. Furthermore, many sports medicine physicians see athletes suffering primarily from significant injuries in sport such as torn ligaments, dislocated joints, concussions and fractured bones; however, athletic trainers must also work with athletes on countless minor injuries, such as mild sprains and strains or contusions, which may prevent participation for short periods of time. In many of these situations, athletic trainers operate under physicians' blanket orders to make return-to-play decisions without physician consultation. Arguably, negotiating safe and sensible risks in returning from these minor injuries can be equally challenging and occurs much more frequently. It is possible that the negotiation of risk regarding playing through pain and injury in these minor situations becomes the building blocks for societal perceptions of normative behavior for playing through pain and injury. Thus, ethical and medically sound decisions regarding participation and returning to play following injury are critical for athletic trainers. Interestingly, very little research exists on athletic trainers and ethical decision-making.

Athletic trainers do not make return-to-play decisions in a vacuum. Roderick (1998) and Murphy and Waddington (2007) suggest that Nixon's portrayal of an exploitive 'culture of risk' be expanded to include investigation of the interdependence of social factors impacting all members of the sportsnet. Nixon characterizes the sport culture as uni-directional in that athletes receive implicit and explicit messages regarding risk and playing through pain and injury. Roderick (1998) and Murphy and Waddington

(2007) argue, however, that coaches, physicians, physiotherapists (or athletic trainers, in the United States), and other members of the sportsnet are also bound by social norms, roles, expectations and relationships that influence their decisions and actions. For example, owners must make a profit or at least minimize losses; fans and media press coaches and owners to produce winning teams or lose their jobs; and sports medicine professionals are expected to quickly return injured athletes to play and to keep injury-related time loss to a minimum. Thus, pressures to meet these expectations may drive conformity to the 'culture of risk' among these sportsnet members as they do for the athlete.

McFarland, Dobrowolski, Srikumaran and Su (2007) report that sports team physicians encounter internal (e.g., emotional attachment to the team, job security concerns, reputational concerns, degree of professional experience) and external (e.g., importance of the game, effect of outcome on team or management) pressures that work to influence decisions made regarding athlete participation following sport injury. Physicians have also felt pressured by coaches, agents, teammates and other third parties concerning their recommendations for athletes' participation with pain and injury (Dunn et al., 2007; Tucker, 2004), and physicians have perceived pressures to return athletes to participation quickly following injury due to the "machismo" attitude in sport, as well as self-imposed pressures to feel part of the team or preserve their reputation (Tucker, 2004).

Intuitively, it would seem that athletic trainers would encounter similar pressures; however, minimal research has addressed the perceived pressures athletic trainers encounter in making decisions on athletes' ability to play through pain and injury. Flint and Weiss (1992) investigated United States high school and Canadian collegiate athletic

trainers' and coaches' decisions on returning injured athletes to competition in hypothetical scenarios. The scenarios involved situations including winning, losing or being in a close game and involved mild injury to a starter, first substitute or bench player. Coaches and athletic trainers were asked to respond yes or no as to whether they would allow a particular athlete in a particular situation to return to competition following injury. In both the high school and collegiate samples, coaches' decisions to allow an athlete to return to play were influenced by the game situation and the playing status of the player, while the athletic trainers showed no difference in decision-making based on player status or game situation.

The results offer encouraging support that athletic trainers act ethically and are not swayed by external influences in making return to play decisions. However, Flint and Weiss (1992) acknowledge that, "coaches and athletic trainers can become involved in role conflicts, moral doubts, and ethical criticism regarding injured athletes" (p. 39). They state that, "as the degree of involvement, the team's needs, and the athlete's contribution increases, so does the difficulty of being completely objective in decision making" (p. 39). A limitation to the findings of this study is that the coaches and athletic trainers were asked to respond to hypothetical situations that are void of the strong interpersonal and emotional ties present in most real-life athletic situations. In responding to hypothetical situations, most athletic trainers will draw upon their medical training and remain objectively detached in making their decision. However, in real-life scenarios, where athletic trainers potentially have strong emotional ties with the athletes, coaches and organization, remaining objective becomes much more difficult.

A second limitation in this study is the use of quantitative methods. As Vealey (2006) points out, group means can mask the unique characteristics of individual responses. A closer look at the results shows that while the majority of athletic trainers were not influenced by the game situation or the players' status in making their decisions, some were.

More recently, two studies again using hypothetical scenarios and quantitative methods highlight the fact that some sports medicine practitioners are swayed by non-medical variables in making return-to-play decisions. Covassin, Elbin, Stiller-Ostrowski, and Kontos (2009) examined the implementation and practice trends of high school and collegiate certified athletic trainers (N=399, 272 men, 127 women) using baseline neurocognitive testing (ImPACT) in their concussion management protocols. Participants completed a 20-item survey developed to evaluate the neurocognitive testing practices and protocols and their institutions. They were then presented with two hypothetical scenarios of reported symptoms and ImPACT scores and were asked about making return-to-play decisions. When asked if they would return an athlete who is symptom-free but who scores below ImPACT baseline scores, 86.5% responded *no*, 9.8% responded *yes*, and 3.8% indicated that it *depended on the importance of the competition*.

Similarly, Mazer et al. (2010) surveyed 464 Canadian sports medicine specialists (123 medical doctors, 76 physiotherapists, and 265 certified athletic therapists [equivalent to certified athletic trainers in the US]) to assess the similarities and differences in how they approached the management of musculoskeletal injuries in active children (ages 7-16 years old). Participants were presented with 5 clinical vignettes and asked to provide

a recommendation about the child's readiness to return to activity. They were then asked whether nine different factors (a pushy parent, a cautious parent, wearing protective equipment, having had a previous injury, musculoskeletal maturity, game importance, position played, team versus individual sport, and time since injury) would alter their recommendation. The results were similar across all three categories of sports medicine professionals. The factors of having a pushy or cautious parent were most consistent in having no effect on the return-to-play recommendations. Approximately one-third of the respondents recommended that a child return earlier if it was an important game or if the position played was less risky. Two-thirds of the respondents would return a child to sport earlier if the child used protective equipment on their return. The authors suggest that the differences in return-to-play decisions should be the area of future research to determine when and why these differences exist.

It is therefore apparent that some sports medicine practitioners, in particular athletic trainers, are impacted by non-medical variables in their return-to-play decision-making. The factors that impact these differences have not been thoroughly identified or studied, but should be as the athletic training profession seeks to further define and follow ethical practice.

Swisher, Nyland, Klossner and Beckstead (2009) identified ethical decision-making regarding return-to-play following injury as one of the greatest challenges facing athletic trainers professionally. They surveyed 27 athletic training experts regarding their perceptions of the key ethical issues facing professionals. Their responses were grouped into seven themes, two of which pertain directly to return-to-play decisions – Conflict of Interest and Pressure to Return to Play. The authors state, "when considered together, the

Conflict of Interest and Pressure to Return to Play themes suggest that the AT [athletic trainer] confronts the potential for multiple divided loyalties and is subjected to pressure to place other interests above those of the athlete" (Swisher et al., 2009, p.7). These findings echo those of Anderson and Gerrard (2005) who surveyed 18 sports doctors in New Zealand regarding ethical challenges unique to the practice of sports medicine. The second most prevalent concern cited was the tension between the long-term welfare of the player/patient and the pressure to return the player to the game. These studies highlight the challenge of making ethical return-to-play decisions due to divided loyalties and outside pressures. However, in both of the studies the sources of those pressures were not identified.

Conceptual Framework for Return-To-Play Process

Recently, Creighton, Shrier, Shultz, Meeuwisse and Matheson (2010) proposed a conceptual model outlining key components in the return-to-play decision making process in sports medicine. The model attempts to clarify the conscious and subconscious processes used by clinicians when making return-to-play decisions. The model incorporates three-steps that highlight the complexity of return-to-play decisions based on modifier factors associated with the sport or the external environment.

In the first step of the model, injured athletes' health status is evaluated based on medical information such as history, signs and symptoms, lab tests, psychological state, and functional testing. Based on the athletes' health status, the second step involves assessing the participation risk. This step incorporates consideration of risk modifiers such as, the type of sport in which the athlete participates (e.g., football vs. swimming), the competitive level of the athlete (e.g., youth or recreational vs. elite or professional),

the position played, the athlete's limb dominance, and the efficacy of bracing, taping or padding. As discussed earlier in the chapter, negotiation of acceptable and sensible risks occurs in this step (Anderson, 2007; Safai, 2003). Once the participation risk is assessed, the final step in the model pertains to how decisions regarding return-to-play are influenced by decision modifiers, such as the timing in the season (e.g., playoffs vs. preseason), pressure from external persons (e.g., athlete, coaches, parents), financial consequences, and fear of litigation.

Thus, this model posits that assuming return-to-play decisions are based simply on physical and psychological health is too simplistic. In reality, return-to-play decisions are influenced by risk negotiation as well as internal and external pressures experienced by athletic trainers or team physicians making the decisions. Creighton et al. (2010) openly admit that their model is a preliminary effort to synthesize the literature and the professional experiences of team physicians in making return-to-play decisions and requires further research to verify the importance, comprehensiveness and accuracy of each proposed component in the model.

Matheson, Shultz, Bido, Mitten, Meeuwisse, and Shrier (2011) undertook a systematic review of the literature to determine the level of evidence in support of Creighton et al.'s (2010) model. Of the 148 articles retrieved, only 13 focused specifically on the return-to-play decision-making process, and 6 of those 13 were restricted to step 1 of the model. The articles that did address steps 2 or 3 of the model were primarily editorial in nature. These discoveries support the original contention in the model development, namely that "what has been missing from our understanding is a systematic evaluation of the nature and extent to which nonmedical factors influence the

RTP [return-to-play] decision-making process" (Matheson et al., 2011, p. 28). Matheson et al. conclude that much remains to be learned about the value of each component in the model and encourage exploration of each of the components to create a better understanding of the weight and sequence in which they should be considered.

Recently, Shultz et al. (2013) surveyed sports medicine clinicians (n=67, physicians [86%], physical therapists [12%], chiropractors [2%]) regarding return-to-play decisions in scenarios of differing risk levels for athletes and regarding their ranking of the importance of the 19 factors identified in Creighton et al.'s model (2010). Clinicians demonstrated variability in their return-to-play decisions that Schultz et al. attributed to lack of clarity in the definition of what it means to "clear" an athlete. In regards to the ranked importance of the 19 factors, clinicians rarely (<5% of the time) identified factors in steps 1 and 2 of the model as 'not applicable' in making return-to-play decisions. However, variability existed in the frequency (range from 10 to 45%) with which all factors in step 3 were ranked as 'not applicable' in return-to-play decisions. Schultz et al. concluded that most sports medicine clinicians believe that factors affecting risk of injury (steps 1 and 2) are important, but some believe that factors listed in step 3 should not be considered in return-to-play decision-making while others believe they should.

Although this is an interesting preliminary step in investigating the accuracy of Creighton et al.'s model (2010), it has several shortcomings. First, this study fails to provide explanation for when and why the variability of opinion regarding the importance of factors in step 3 exists. Second, the study reflects the opinions primarily of sports medicine physicians and does not include the views of athletic trainers. Finally, the study

did not allow participants to identify other potential factors that may be important to return-to-play decision-making but are not identified in the current model.

Using the Creighton et al. (2010) model as a guide, the researcher developed a conceptual model of possible non-medical decision modifier variables that may influence return-to-play decisions made by athletic trainers (see Figure 4). In this model, steps 1 and 2 of the Creighton et al. (2010) model are combined within the circular arrows indicating that these two steps are critical medically-based pieces of assessing injured athletes' readiness to return to play following injury. Outside of the circular arrows, the researcher has divided potential decision modifier variables into internal and external influences. This model expands upon the decision modifiers identified by Creighton et al. (2010) to include other variables identified from the published literature reviewed earlier in this chapter, pilot interviews with certified athletic trainers conducted as part of the researcher's graduate coursework, as well as the researcher's own professional experiences over twenty-five years as a certified athletic trainer.

Internal influences included in the model that may impact return-to-play decisions made by athletic trainers include concerns over job security, professional reputation, and litigation, as well as personal factors such as the age and experience of the athletic trainer or the degree of connectedness ("fandom") the athletic trainer feels with the team. External influences that may impact return-to-play decisions include pressures perceived from coaches, parents, administrators, or athletes; concerns over financial consequences of allowing athletes to participate or not; staffing issues, such as feeling overworked or being short-handed; and situational variables including the time of the season, the status of the player, the competitive level of the player, and the norms of the sport culture.

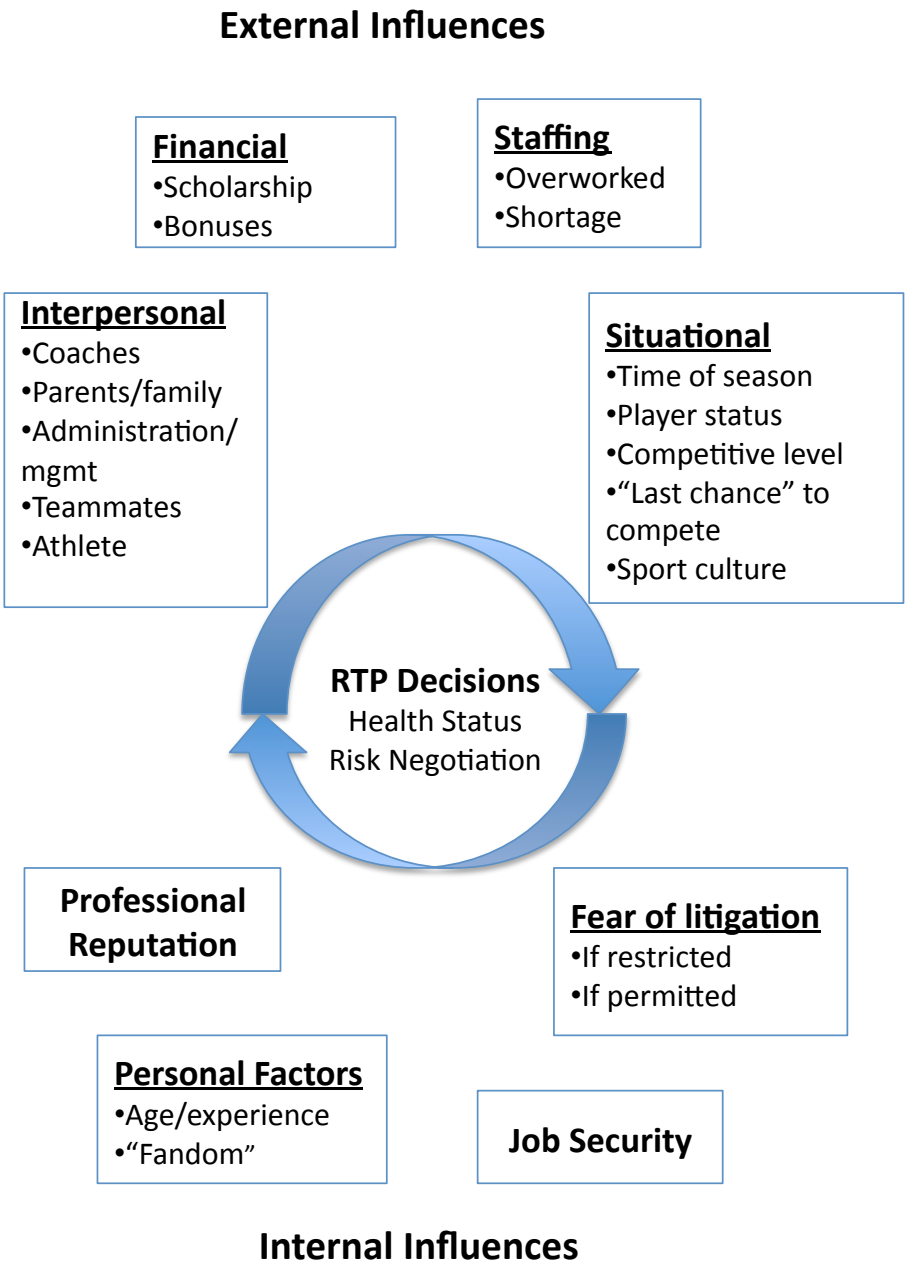

Figure 4. A conceptual model of decision-modifier variables influencing return-to-play decisions.

Need for the Study

Athletic trainers in the United States are required to make return-to-play decisions on injured athletes on a daily basis. Limited research has been conducted on this topic in the athletic training population. The limited research that does exist (Covassin et al., 2009; Flint & Weiss, 1992; Mazer et al., 2010; Swisher et al., 2009) identifies the return-to-play decision making process and the variables that affect it as important components in the ethical practice of the profession; however, they either fail to identify or identify only on a limited basis what the decision-moderating variables are, how these variables affect athletic trainers' decisions, and how athletic trainers strategically cope with these variables.

Furthermore, athletic training education programs are not explicitly directed in how to address and prepare athletic training students for coping with the potential decision-modifying variables they may face when making return-to-play decisions as professionals. The NATA's *Athletic Training Education Competencies* (NATA, 2011), the document that stipulates the minimum requirements for a student's professional education, does not specifically address return-to-play decision-making challenges. Instead, topics such as maintaining the primacy of the patient, recognizing sources of conflict of interest, advocating for the needs of the patient, and complying with the NATA's *Code of Ethics* and the BOC's *Standards of Professional Practice* are listed as foundational behaviors of professional practice that should be incorporated into instruction, but no further guidelines or requirements are given. This leaves it up to chance whether athletic training students receive adequate education and training on the challenges they may encounter when making return-to-play decisions or the development

of strategies to successfully cope with these challenges. Accurately identifying challenges that accompany return-to-play decisions as well as instruction on effective means to cope with those challenges should be included in the preparation and education of athletic training professionals.

Research is needed to a) confirm whether or not athletic trainers face challenges similar to sports team physicians when trying to make ethical return-to-play decisions for injured athletes, b) identify effective strategies for coping with return-to-play decision-making challenges, and c) verify if athletic training professionals perceive their educational preparation was sufficient for understanding and strategically coping with the ethical challenges that accompany return-to-play.

Creighton et al.'s (2010) model on return-to-play decision-making is intuitively appealing as a framework for examining the return-to-play decision-making process for athletic trainers. As an acknowledged preliminary effort to synthesize the literature and professional experiences of team physicians, the model requires further research on several fronts. First, the model is not empirically based. It was developed from a literature that is primarily prescriptive and based on physician's personal experiences. Second, while it is assumed that athletic trainers encounter similar decision-modifying variables in their return-to-play decisions, the validity of this statement is unknown. Athletic trainers have more regular and frequent contact with athletes and other members of the sportsnet in the course of their job compared to sport team physicians. This increased interaction creates the possibility that athletic trainers may experience additional or different challenges in return-to-play decision-making than sports team

physicians (Figure 4). It is important to verify whether Creighton et al.'s model can be generalized to athletic trainers' experiences or if modifications are needed.

Given that return-to-play decisions are a fundamental aspect of daily athletic training practice, it is essential to broaden the understanding of the variables that influence these decisions. Testing and potentially refining Creighton et al.'s (2010) conceptual model will provide athletic training educators with a framework for a curriculum that can prepare athletic training students to balance moderation and hubris in ethical return-to-play decision-making skills. Furthermore, the results will also assist current athletic training professionals by increasing awareness of non-medical influences on decision-making and facilitate the identification of coping strategies to help athletic trainers develop resiliency to these influences so the integrity of a most optimal decision-making process can be preserved.

Purpose of the Study

The purpose of this study is to examine athletic trainers' lived experiences with making return-to-play decisions. Specifically, the study seeks to examine the following within a sample of certified athletic trainers: a) the accuracy, applicability and comprehensiveness of Creighton et al.'s (2010) decision-based return-to-play model, b) to what extent and under what circumstances decision-modifier variables influence return-to-play decisions, and c) the athletic trainers' strategies and perceptions of their professional preparation for dealing with decision-modifier variables in return-to-play decisions.

CHAPTER TWO

Method

The method chapter first reviews the underlying epistemological foundation that supports the selected research methodology. The chapter next describes specific details regarding the participants involved, the data collection methods, and the methods of data analysis. The chapter concludes by defining important terms used in this research study.

Epistemological Foundation

As seen in the previous chapter, pain and injury are not experienced solely in physical or physiological terms, and athletes who may have the same injury do not necessarily experience pain or other reactions in the same way or to the same degree. Cultural context, social structure and status, and psychological factors are important filters that shape how athletes perceive, experience and respond to pain and injuries in sport (Nixon, 2004).

Athletic trainers, who are often charged with making return-to-play decisions for injured athletes, operate in similar cultural and social contexts. Creighton et al. (2010) suggest that concrete laws regarding return-to-play decisions are non-existent as social and cultural factors infiltrate risk negotiation and modify the final return-to-play decisions made by sports medicine clinicians. As a result, a positivist approach to research on this topic may be inadequate (Brustad, 2008; Ponterotto, 2005). Furthermore, medical uncertainty regarding a 'best time' to return-to-play following injury creates opportunity for social pressures to exert profound influence on return-to-play decisions (Malcolm, 2009). Ritchie (2003) states that, "qualitative research provides a unique tool for studying what lies behind, or underpins, a decision, attitude, behavior or other

phenomena" (p. 28). She suggests that qualitative methods are of particular value when behaviors need to be understood in 'real world' contexts. Thus, a qualitative approach has been adopted for this study.

A review of this study's stance on the philosophy of science parameters (Ponterotto, 2005), helps locate this study within a constructivist-interpretivist paradigm. Ontologically (i.e., what can be known about reality), this study assumes that reality is subjective and influenced by situational context, the social environment, and individuals' perceptions and experiences. Creighton et al. (2010) suggests that multiple factors influence how return-to-play decisions are made; and therefore, there are multiple, constructed realities versus a single, true reality. Epistemologically (i.e., relationship between the researcher and the researched), the researcher and the researched will dynamically interact as a result of the planned semi-structured interviews, a characteristic consistent with the constructivist-interpretivist paradigm. With regard to axiology (i.e., role of researcher's values in the scientific process), the researcher's professional experiences as a certified athletic trainer and the contribution these experiences have on the development of the conceptual model are acknowledged and described rather than eliminated. This study's emphasis on an idiographic (i.e., understanding the individual as a unique and complex entity) and emic (i.e., behaviors that are unique to individuals or sociocultural context and not generalizable) view of return-to-play decision-making experiences locates this study in a constructivist-interpretivist paradigm.

The constructivist-interpretivist perspective of this study also influences the choice of methodology employed. Because a constructivist-interpretivist perspective posits that reality is an individual experience bound by a certain time and place and the

goal is to understand the 'lived experience' of the researched (Ponterotto, 2005), intensive interaction between the researcher and the researched is necessary. Thus, semi-structured interviews designed to allow for probes and prompts to obtain a deeper and fuller understanding of participants' experiences, will be used to explore athletic trainers' 'lived experiences' of making return-to-play decisions (Legard, Keegan, & Ward, 2003; Madill & Gough, 2008).

It should be noted that use of a proposed conceptual model, and thus an a priori template, developed from literature-based themes may infer a post-positivist perspective. However, because this study emphasizes identifying additions, modifications, and revisions to the proposed conceptual model through inductive analysis of the data, the method used simulates a constructivist-interpretivist paradigm (Ponterotto, 2005).

Participants

Twelve certified athletic trainers from varying professional settings were purposively selected for this study. Purposive sampling indicates that participants are chosen because they have particular features or characteristics central to the themes under study (Ritchie, Lewis, & Elam, 2003). The criteria considered for purposive selection of this sample included: a) employment setting – participants were selected to represent athletic training experiences at multiple competitive levels (e.g., youth sport, high school, collegiate, elite or professional), b) gender – participants were selected to create a gender balance in the sample, and c) experience – participants were selected to represent a range of years of experience in the athletic training profession.

Participants ranged in age from 27 years to 48 years (M = 34.67, SD = 6.12), and had a range in years of experience as a certified athletic trainer from 5 years up to 25

years (M = 12.08, SD = 6.08). Table 1 summarizes the demographic data for the participants.

This sample size of 12 participants is consistent with the work of Guest, Bunce, and Johnson (2006). While the ultimate sample size is dependent on data saturation, they offered evidence-based recommendations regarding non-probabilistic sample sizes for interviews. They found that theoretical saturation (i.e., the point when new information produced little or no change to the coding template) occurred within the first twelve interviews, although the basic elements for themes were present as early as six interviews. Guest et al.'s (2006) declaration of saturation at twelve participants in a relatively homogenous sample encompassed 92% of the themes captured in their sixty total interviews. Within this relatively homogenous sample of athletic trainers changes to the coding template became minimal after the completion of the first six interviews, thus 'saturation' was declared after twelve interviews. It should be noted, however, that often in qualitative research pragmatic issues of time, funding and resources may dictate the acceptable sample size to reach 'saturation' (Ritchie et al., 2003).

Measures

Demographic questionnaire. Participants completed a demographic questionnaire (see Appendix A) that included their name, age, gender, number of years certified, athletic training experiences (e.g., duration; competitive level; sports, gender, and ages covered), and a subject code. The demographic questionnaire served two purposes. First, it enabled the researcher to ensure that sample heterogeneity was being maintained and all desired criteria were met. Second, the questionnaire provided a place

Table 1

Participants' Demographic Data

Participant	Age	Gender	Years Certified	Level (Years)[a]
1	41	F	19	Professional (9) NCAA Division I (7) Junior College (3)
2	32	M	11	NCAA Division III (3) High School (14)
3	37	F	14	Masters (1) Professional (12) High School (14)
4	48	M	25	Professional (2) NCAA Division I (3) NCAA Division III (23)
5	31	F	6	US National Team (3) NCAA Division I (6) NCAA Division III (2)
6	30	M	9	Professional (7) NCAA Division I (2) High School (3)
7	27	M	5	Professional (5)
8	37	M	12	Professional (10) NCAA Division I (2)
9	38	F	16	NCAA Division I (1) NAIA (11) NCAA Division III (3) High School (1)
10	28	F	5	NCAA Division II (4) NCAA Division III (1) High School (1)
11	37	M	15	Olympic (1) NCAA Division III (13) High School (2) Youth (1)
12	30	F	8	NCAA Division II (2) NCAA Division III (6)

Note. Professional = professional athletics; NCAA = National Collegiate Athletic Association; NAIA = National Association of Intercollegiate Athletics; Masters = competitive sport participants > 50 years of age; Youth = competitive sport participants < high school age; Olympic = National team members competing in Olympic qualifier

[a]Competitive level of athletes with which participant worked and the years of experience working at that level

to link a subject code to each participant so that anonymity was maintained when using participants' quotes in reporting the study results.

Semi-structured interviews. In-depth, semi-structured interviews served as the primary form of data collection. A topic guide (see Appendix B) addressed the key issues covered during the interviews; however, flexibility was maintained to pursue questions in the order most suited to the interviewee, allow responses to be fully probed and explored, and allow the researcher to respond to relevant issues raised spontaneously by the participant (Legard et al., 2003; Smith, 1995). The topic guide was developed to explore themes highlighted in the conceptual model identified earlier (see Figure 4) and Creighton et al.'s (2010) decision-based RTP model (King, 1998). Interview flexibility enabled themes absent in the conceptual model to be identified and explored fully.

Interviews were conducted in June, August, January, and February. Interviews lasted anywhere from 48 minutes to 1 hour, fifteen minutes. Most interviews were conducted at the participant's office, with one taking place at the participant's home. All interviews were conducted, audio-recorded, transcribed, and coded by the researcher. One other qualified person also coded the interview transcripts.

Multiple coders of the transcripts were used to ensure triangulation and objectivity in data analysis (Lincoln & Guba, 1985; Merrick, 1999). Although the second coder was familiar with qualitative research, the researcher reviewed the specific data analysis technique used for this study.

Procedures

After receiving approval from the Institutional Review Board, the researcher identified potential participants through her professional network. Potential participants

were contacted by email or phone, informed of the nature of the study, and asked to participate. All those contacted agreed to participate in the study. Participants were emailed an information sheet about the study (see Appendix C) and the Demographic Questionnaire (see Appendix A), which they completed and emailed back to the researcher. Interviews were then scheduled at a location convenient to the participant and that ensured privacy. Before each interview, the researcher again reviewed the information sheet about the study with the participant, and participants were assured that their responses would be presented in a way that would preserve anonymity.

Data Analysis

Data analysis began immediately following the first interview and continued for several months after the conclusion of the final interview. Each interview was audio recorded and then transcribed verbatim. The researcher initially familiarized herself with all the data by repeatedly listening to the interview tapes and reading the transcripts (Braun & Clarke, 2006; Merrick, 1999). Analysis was both deductive and inductive employing concept-driven and data-driven coding respectively. Specifically, because a priori themes were identified through previous published literature and the researcher's professional experience relative to the study's first purpose, template analysis (Braun & Clarke, 2006; King, 1998) was appropriate. However, since a priori themes were not established for purposes 2 and 3, interview data were thematically coded using a more inductive process where themes emerged from the data and not from preconceived concepts or hypotheses (Braun & Clarke, 2006; Charmaz, 1995, 2006).

Template analysis or thematic coding are methods for identifying, analyzing and reporting patterns, or themes, within data (Braun & Clarke, 2006). In this study,

interview data were coded based on the data's reflection of a theme or issue deemed important to the topic of making return-to-play decisions. Codes were organized hierarchically, with groups of similar codes clustering together to form more general higher-order themes or codes (King, 1998).

The initial coding template for the first purpose was developed from the published literature (Creighton et al., 2010), the researcher's own professional experience, and information gained from pilot interviews conducted for one of the researcher's graduate courses (see Figure 4). First and some second order themes were derived from these existing sources. For example, a first order theme labeled sport risk modifiers was identified from Creighton et al.'s (2010) model, with type of sport, position played, limb dominance, competitive level, and ability to protect identified as potential second order themes. The more specific lower order themes (e.g., activity required, home versus away) emerged as the transcripts were coded. At the same time, consistent with an inductive approach, some new codes not represented in the original template emerged from the interview data. As the coding process progressed, inadequacies revealed in the initial template prompted changes of various kinds.

For purposes 2 and 3, the main questions in the topic guide served as higher-order themes, with subsidiary questions and probes as potential lower order themes (King, 1998). Again, some new codes emerged from the data. In all cases, coding and revising of the hierarchical thematic structure occurred continuously. Comparisons were made both within and between cases, and quotes were reorganized into standing or newly developed themes as needed (Ritchie, Spencer, & O'Conner, 2003). This analytical

process was carried out until no new information about a theme emerged (Strauss & Corbin, 1998) and saturation was achieved.

Data coding and hierarchy organization were assisted by the use of Microsoft Excel and NVivo. In particular, Microsoft Excel was used to collect and code data extracts. The filter option was used to sort and analyze relevant codes. NVivo was used to organize thematic maps and coding trees.

To ensure trustworthiness of the data analysis process, several techniques were employed (Merrick, 1999; Stiles, 1993). First, as described earlier in this paper, the researcher's 25 years of experience as a certified athletic trainer were acknowledged as the lens through which the data were interpreted, serving as a source of expertise, but also potential bias. Next, the researcher had intensive and prolonged engagement with the data through the transcription and coding processes. Additionally, triangulation (i.e., use of multiple coders) and peer debriefing (i.e., conversation among coders to gain consensus of interpretation) were utilized. More specifically, after the researcher analyzed and coded the transcripts, the second coder independently reviewed the transcripts and coded the data. The two coders then compared coding decisions and any areas of disagreement were resolved through discussion until consensus of interpretation was achieved. Finally, member checks were conducted through the return of a select group of interview transcripts and preliminary interpretations to the participants to ensure accuracy. Through these procedures validity was maintained.

Structure of Athletic Trainers' Role in Medical Decision-Making

As per individual state practice regulations, athletic trainers generally function under the supervision of a medical doctor or team physician (BOC, 2006; Courson et al.,

2013; Herring, Kibler, & Putukian, 2013). In more severe injuries, the team physician or medical doctor is better qualified to make medical recommendations based on the factors in steps 1 and 2 of Creighton et al.'s (2010) model; however, other concerned parties, including athletic trainers, are often consulted in the process of addressing issues in step 3 (Matheson et al., 2011). In mild to moderate injuries athletic trainers frequently take on greater authority in making return-to-play decisions. On cases not requiring physicians' evaluations, athletic trainers often operate under standing orders to make independent return-to-play decisions (Courson et al., 2013). Thus, the decision-making authority held by athletic trainers can vary on a case-by-case basis.

It should be noted that despite consensus statements outlining best practices, recent research (Shrier, Safai, & Charland, 2014) highlights that sports medicine clinicians' personal opinions regarding their role in return-to-play decision-making may vary from the consensus statements. Shrier et al. (2014) revealed that among Canadian sports medicine stakeholders (i.e., physicians, physiotherapists, athletic therapists [equivalent to athletic trainers in the US], chiropractors, massage therapists, athletes, coaches and representatives from three sport associations), each clinical stakeholder group rated their own occupation as more capable in assessing reinjury risk than any other stakeholder group rated it. It is probably safe to assume that similar personal opinions exist among sports medicine stakeholders in the United States.

Definition of Terms

The following terms were used extensively in the literature review, interviews, and/or the conceptual model. Thus, the terms are presented and operationally defined for point of clarification.

Sport Ethic. Set of culturally derived norms defining what it means to be a "real" athlete in power and performance sports. The normative behavior includes athletes making sacrifices for the game, striving for distinction, playing through pain and injury, and accepting no limits in the pursuit of goals and dreams (Coakley, 2007).

Culture of Risk. A culture that rationalizes and normalizes injury and playing with pain as part of the pursuit of winning (Nixon, 1992).

Culture of Precaution. A culture that resists or at least tempers the promotion and tolerance of injury as normal in high-level sports (Safai, 2003, 2004).

Sensible Risk. A risk assessment and action decision that takes into consideration the long-term consequences to the health and well-being of the athlete versus just the short-term goal of returning to play as soon as possible following injury (Safai, 2003).

Sportsnet. A term used to describe the members of an athlete's social support network that tend to insulate athletes from interactions with persons outside the sport domain (Nixon, 1992).

Pain. An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (Merskey & Bogduk, 1994).

Injury. Injury refers to actual tissue pathology.

Return-to-play. A graduated progression toward resumption of full competitive activity.

Return-to-play decision. A decision to allow an injured athlete to resume unrestricted participation or progress to a higher level of participation.

CHAPTER THREE

Results and Discussion

By eliciting athletic trainers' accounts of their return-to-play decision making experiences, this study was able to a) assess the accuracy, applicability, and comprehensiveness of Creighton et al.'s (2010) decision-based RTP model in an athletic training population, b) examine to what extent and under what circumstances decision-modifier variables are encountered in athletic trainers' return-to-play decisions, and c) identify athletic trainers' strategies for dealing with decision-modifier variables in return-to-play decision-making.

This chapter will present the results and provide discussion of the thematic analysis of the interview data. The chapter first highlights participants' confirmation of the collaborative relationship between athletic trainers and team physicians in making return-to-play decisions. The chapter then presents the findings regarding the accuracy, applicability and comprehensiveness of Creighton et al.'s (2010) decision-based RTP model when applied to athletic trainers' experiences. It outlines and discusses participants' experiences with the process of making return-to-play decisions and the variables that potentially influence those decisions. Due to time demands in the interview process, greater time and emphasis was placed on pursuing participants' experiences with decision modifier variables. The chapter then describes the situations under which these variables have the greatest potential to exert influence on athletic trainers' return-to-play decision-making processes.

The chapter next presents and discusses participants' strategies for coping with decision modifier variables encountered in their return-to-play decision-making. Finally, the chapter concludes with presentation and discussion of participants' experiences regarding the shortcomings of current athletic training education regarding return-to-play decision-making and their suggestions for optimal educational efforts in this area.

Confirmation of Athletic Trainers' Role

The coding and subsequent analysis of the interview transcripts confirmed that participants viewed the return-to-play decision-making process as a collaborative effort between athletic trainers and team physicians. As participant #3 stated,

> you know, I see them [team physicians] as the first line. So if you're talking about a concussion or a fracture or whatever, the…the physician might say, 'yes he's ok to return' but you know, perhaps they didn't watch the kid run or you know do some different kind or things or maybe we [athletic trainers] have different information that the physician doesn't have, that would make it unsafe for them to play so I think ultimately that's why we're hired - to protect…whatever entity we're working for. I think it has to come down to us.

Another participant (#5) noted that the athletic trainer's role in return-to-play decision-making changes with more minor injuries,

> Well, I think most places I've been it's always been um…pending the injury…um…for more significant injuries that involve significant time out, head injury, or follow up with like a surgical procedure or a concussion, it always goes to the team doc. Um…and then I think with like just general acute or chronic

> return to play decisions, like with minor injuries, um…I think it's mostly then the athletic trainer that's involved directly with that sport.

Participant #7 highlighted the collaboration that occurs between the physician and the athletic trainer in determining game-readiness even with more severe injuries.

> Depending on the extent of the injury…like, if it's something like a concussion where a doctor needs to be giving clearance…or give the ok, then obviously that's the doctor's call um…of when they can at least start to return to activity. But the return to play decision um…like a giving the final word, I like to think I uh…not the final say, but at least a good input on, 'alright, this guy is game ready.' And then we'll go to the coaching staff and get their opinions on whether he's game ready or if he needs to improve on it. So…at least if he's medically game ready, I get the say…the final say.

Consistent with previous research (Courson et al., 2013; Creighton et al., 2010; Herring et al., 2013; Matheson et al., 2011), participants acknowledge that in severe injuries the team physician provides the initial confirmation that injured athletes may begin a return-to-play progression. Athletic trainers are authorized to guide the rate at which injured athletes are exposed to progressively increasing physical demands (i.e., functional assessment) and use this information to create a safe, graduated return to full competition (Courson et al., 2013). However, participants also indicated that when minor injuries occur and physician consultation is not required, athletic trainers often make the return-to-play decisions. Thus issues of injury severity impact the degree of collaboration athletic trainers and physicians have in the return-to-play process (Shrier et al., 2010).

Furthermore, consistent with Shrier et al. (2014), participant responses support the opinion that athletic trainers are most capable of assessing risk reduction through activity modification in the return-to-play process. However, also consistent with Shrier et al., participant responses indicated that at times they felt they may have the best capacity to evaluate return-to-play criteria, even above the team physician. Consistent with Shultz et al. (2013), ambiguity in what is meant by "clearing" an athlete to return-to-play contributes to the variability of opinion regarding participants' descriptions of their role in return-to-play decision-making.

Applicability of Creighton et al.'s (2010) Decision-Based RTP Model

Coding and subsequent analysis of the interview transcripts revealed that Creighton et al.'s (2010) decision-based RTP model accurately describes some aspects of the return-to-play decision-making process for athletic trainers; however, the results also revealed unique aspects in the process experienced by athletic trainers requiring the revision and expansion of the model to accurately depict athletic trainers' experiences. The results will be summarized and discussed according to Creighton et al.'s description of steps 1-3 in their decision-based return-to-play model.

Step 1: Medical factors. Participant responses supported the evaluation of health status via medical factors as the first step in athletic trainers' return-to-play decision-making processes (see Figure 5). Specifically, participant responses supported the inclusion of signs and symptoms, functional tests, and psychological state as medical factors used by athletic trainers to evaluate athletes' health status. However, participant responses provided only limited support for Creighton et al.'s (2010) sub-theme of personal medical history, and did not support lab tests as a medical factor considered by

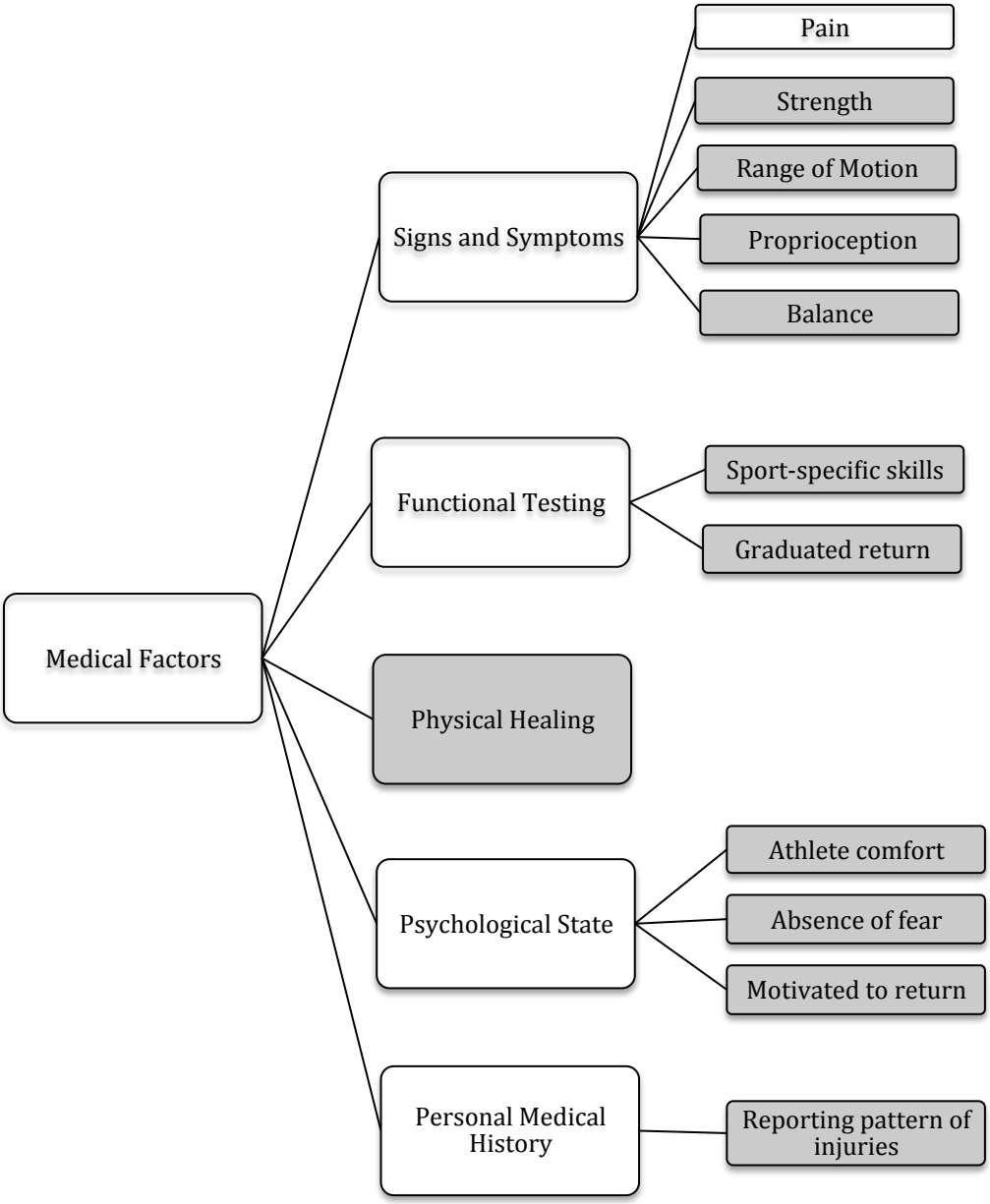

Figure 5. Medical factors assessed by athletic trainers in evaluation of athletes' health status. Shaded content indicates addition to or expansion of Creighton et al.'s (2010) decision-based RTP model.

athletic trainers. Participant responses suggested the addition of a sub-theme titled physical healing and the sub-themes of potential seriousness and patient demographics were presented as more relevant risk modifier variables and will be discussed under step 2.

Signs and symptoms. Participants stated they relied heavily on assessment of a number of signs or symptoms to determine athletes' health status. Third order sub-themes of pain, strength, range of motion, proprioception and balance were identified in participants' responses. Participant #12 stated,

> Obviously, pain-free or minimal pain um…every once and awhile I think they're gonna have some little aches and pains, but no sharp, shooting pains, um…full functionality, so being able to be functional at…good strength, good range of motion…you know, full range of motion, 85-plus percent strength, um…and the biggest thing is like the being functional with minimal pain.

Another participant (#3) described her criteria for health assessment. "Yeah…I think it comes down to a whole lot of different factors….you know whether they're strong enough, whether they have the proprioception and balance, whether their range of motion is back, all that kind of physical stuff," and participant #11 indicated the need for athletes to, "[have] full range of motion, full strength, have to pass functional testing, uh…have to have a certain level of…of confidence in their condition."

Functional testing. Consistent with the previous participant quote, participants explained that the assessment of signs and symptoms blends in with the functional testing of athletes' abilities when athletic trainers assess athletes' health status. More specifically, third order sub-themes of sport-specific skills and graduated return were

identified as functional tests considered by participants. For example, participant #9 stated,

> We look for the same criteria every time. Um…we want their pain reduced, we want range of motion, strength within normal limits, and they have to be functional. And really it comes down to for me is the very, very basic premise of if you're limping, you don't play. And we use that you know, working from youth athletes all the way up to elite, collegiate athletes. If there's a change in gait, if you're limping, you don't play. So, function is one of the most important things, you know, they have to be functional um…and they have to meet the demands of the sport. Um… you know, so between…I would say those are more the physiological criteria.

Participant #8 echoed the importance of functional testing to assess athletes' health status.

> Well, I guess uh…you gotta take them out and do some type of functional uh…activity with that player to see exactly if they are able to…perform the various activities that you've requested them to do…if it's an ankle, having them do some cutting on that, some backpedaling, some shuffling um…for a knee, you would kind of do the same things…some jogging, see if their gait is right…so you actually got to take them through some functional stuff before you'd clear a person to get back out there and do stuff.

According to several participants, functional testing was important for initial performance of sport-specific skills as reflected by participant #2,

> It's mainly if they're functional enough to go back and play…and if they feel themselves that they're ready to go back to play...Depending on what the injury

> is…like, if they can run…if they can, like if it's an ankle or a knee, if they can run, if they can cut, if they can jump, if they can do activities they'd need to do for their sport…same with a shoulder injury, like if they're able to throw…throw hard and accurately, throw the way they should be throwing.

But participant #7 stated it was also important to use functional testing to repeatedly assess athletes' health status as they progress through a graduated return-to-participation,

> Specifically in baseball depending on whether it's upper body or lower body injury…you know, upper body, has he completed a full return to play throwing program? His arm up to good caliber strength? If he's a position player, can he swing a bat fine? Um…and return to play is a progression, you know, start with maybe five innings the first time, then seven innings and a day off, and then give him a full game and a day off, and then maybe two full games in a row um…where it slowly works his way back into full activity, but usually they get to the point of where they're…they're able to do a full throwing program and then they go into some drills and then they can throw in those drills and get through that full throwing program and the drill throwing, and work to getting them back to full activity.

Participant #5 also reflected on the importance of a graduated return-to-participation based on athletes' functional ability.

> I mean we're all taught basic guidelines of what they should be able to do um…and I think basically it's the general play and then you can always modify based on, you know what limits your return to play could be. So you know, are they on the field warming up with the team versus, you know full contact or

> partial contact? I think those are also limiting factors in the return to play decision because you can have a return to play to this level, a return to play to this level, so it's...I think it's…I think it's a variable, but it all goes back to assessing the risk of putting them back out there.

Participants' reliance on functional testing in their assessment of patients' health status is consistent with Courson et al.'s (2013) contention that in best practices, sports medicine physicians will authorize athletic trainers to guide the rate at which injured athletes are exposed to progressively increasing physical demands as they work their way back to full competition. It is also consistent with Shrier et al.'s (2014) discovery that athletic therapists (similar to athletic trainers in the United States) were rated as most capable of assessing injury risk reduction through activity modification. Athletic trainers' reliance on functional testing most likely results from the daily access and contact they have with their athletes. The traditional athletic training setting allows athletic trainers to be present at practices and competitions. This enables them to observe and assess athletes' functional abilities on a more consistent basis than most traditional sports medicine physicians who may see their patients only in the office or athletic training room. In light of this difference, it is not surprising that participants indicated such a high value on functional testing in their evaluation of athletes' health status.

Physical healing. Participant responses suggested the addition of physical healing as a sub-theme of medical factors considered by athletic trainers when assessing health status in return-to-play decisions. Participant #9 described the importance of abiding by a time-line that assures physical healing has actually occurred.

> I am a stickler for function. Safety, is obviously the first…you know…one of the things we talk about a lot is, you know if it's a structural or orthopedic injury, you know we want to know that physiologically healing has happened um…and enough healing has happened. Um…you know, one of the examples I always give is an ACL. We're pretty…we're sticklers on six months as our team physicians because we understand that while they may look great and be very functional at three months, we know the graft hasn't healed yet. Um…so structurally, physiologically we want to make sure that healing has happened.

This highlights the importance athletic trainers place on considering not only how the athlete looks functionally, but also on the physiological timelines for tissue healing. The evaluation of health status involves consideration of both factors. The fact that the sub-theme of physical healing does not appear in step one of Creighton et al.'s (2010) original model is somewhat surprising as intuitively it seems that this is a factor sports team physicians would be keenly aware of in assessing an athletes' readiness to return to participation. The omission of this factor from the original model is most likely the result of the preliminary nature of the model rather than from the failure of sports team physicians to consider this variable in assessing health status.

Psychological state. While physical markers of health status were important, participants also acknowledged the importance of assessing athletes' psychological status in determining their overall health. Third order sub-themes of athletes' level of comfort, absence of fear, and motivation to return were identified in participant responses. Participant #10 noted,

> And honestly, a lot of it too was mental. I felt I always wanted to sit down with them and say, 'ok, where are you at?' You know, 'cause I felt if they didn't feel prepared to go back into it, no matter their shoulder, their knee, anything else…it looked beautiful, it was 100% ready to go, if they weren't there, it wasn't going to work…like they…there was going to be something wrong even if nothing was wrong with them and the surgery went beautifully, rehab went beautifully, mentally they just wouldn't have been ready.

Participant #6 pointed out that lack of psychological readiness could impede post-injury performance just as easily as physical deficits.

> He might be completely healthy, 100%, and he doesn't feel comfortable getting back out there. He's just not mentally there. Um…in that case, it's…I…I…I wouldn't throw an athlete back out there if he's not mentally there, and I would tell my coaching staff or whoever I'm working with, 'physically he's there, mentally he's not there.' Um…could he go back out there? Absolutely. Is he gonna be timid and he's not gonna be the same player? Absolutely, until he gets over that mental block.

Participant #9 acknowledged the assessment of psychological status is important regardless of the severity of the injury,

> The psychological criteria is that throughout the rehab process, whether it's a very short process or whether it's a long process, um…you look for things I think continuously to make sure that… you don't…you don't smell fear. And you can tell that they're ready, and they're asking you to be ready.

Participant #3 pointed out that when athletes lack the motivation to return, they should not be cleared to participate.

> But really kind of talk to the athlete and decide what…what they want versus like in the state championship, the kid [is] like, 'I'm done. I don't wanna do this anymore,' you know in a wrestling tournament, 'fine' you know, 'you don't have to'….you know, 'if this hurts bad enough and you don't want to go, we can be the bad guy and talk to your coaches and say that you're done.' Um…and you know I think that's important to be an advocate for the kid.

Participant #1 acknowledged that recognizing the need to assess psychological status was a skill she developed over time in the profession.

> I think, [a] long time ago when I started the profession, I was so stubborn to see my decision or following what I find than 'no, no, I think you can try it. You should be able to go back to play.' I was more aggressive to force them to go back to play. Umm, however I found that if you do so, in the middle of practice they pull themself out and that may affect the entire team, the practice schedule, or the strategies, and really … if athletes thinks they're not ready, they're not 100% or they don't want to play, then I believe I have to partially support that and find out why they are not ready instead of, you know 'no, you should be ready, you can play, you can go' like you know?

Participants' inclusion of both physical healing and psychological readiness provide evidence of participants' holistic view of evaluating athletes' health status, a guiding principle for sports medicine-athletic training services (Courson et al., 2013).

Non-supported sub-themes. Contrary to Creighton et al.'s (2010) model, participants in this study were less reliant on patient demographics, personal medical history, lab tests and potential seriousness in their evaluation of athletes' health status. Demographic information, specifically athletes' age, was considered more as a risk modifier variable (discussed later) by participants, and athletes' sex did not impact the evaluation of health status or the return-to-play decision-making process. For example, participant #8 stated,

> For me…it was the athlete…just looking at the athlete. I really…it's funny…'cause sometimes you gotta do some different things with female athletes of course, but it's how you approach it. And I think some of them [females]…actually, some of them were, you know…were tougher than some of the guy athletes. It's just the way you approach your athlete, I think. You know…you got some people that…once you get to know them, you know yeah, this person's tough or…no, they're not tough. So, that's the way you approach it you know what I mean?

Participant #9 echoed the importance of an individualized approach for the athlete regardless of sex,

> For me, I don't think it [sex] is a factor. For me it is more about personality…and whether it is an aggressive female or a sheepish male, I think that…that's probably more the factor for me…is…I tend to get to know the athletes very well. And so I think that…in a way I think that helps me to um…figure out…figure them out and what will work for them. Those athletes that need a kick in the butt

> and those athletes that just need a little love…um…and so…what buttons to push when is more of a factor for me than gender I think.

Participant #12 voiced similar considerations,

> I don't think it [return-to-play decision] changes on the gender of the athlete um…you know, I think it definitely changes on the athlete because like I said, everyone is not the same, um…and I think there are some times where an athlete just needs um…a little more confidence-boosting and a little bit more time to…to be there and to…to feel that they are really going to be ok.

Participants did not address athletes' personal medical history as a sub-theme per se in assessing athletes' health status. One participant (#2) acknowledged that athletes' injury reporting patterns can influence how an injury is perceived,

> I don't know if tough is the right word or not…but you know we have some of those kids that are always in there with something…it's always, 'well, it's this now, it's this now, it's this now, it's this now…' um…those kids would be more aggressive on their return to play than somebody we've never seen before or maybe is a senior who plays three sports and then if he came in complaining of something I would take that as a little more serious than the kid we see twice a week for something different [laughs].

But no participants directly addressed personal medical history as a criterion for assessing health status.

Furthermore, participants did not acknowledge lab tests as a medical factor athletic trainers consider in evaluating athletes' health status. It is very possible this is due to the fact that ordering, reading, and interpreting lab tests, such as x-rays or MRIs,

falls more under the auspices of team physicians and outside of the scope of practice for most traditional athletic trainers (NATA, 2011). Consequently, when the injury dictates the necessity of such tests, athletic trainers will most likely leave interpretation and evaluation of this information to their collaborating team physician.

Also contrary to Creighton et al.'s (2010) model, participants did not include potential seriousness as a sub-theme in evaluating athletes' health status. Rather, they suggested this sub-theme was more important to them as a risk modifier variable in step 2 of the return-to-play process.

Step 2: Sport risk modifiers. Consistent with Creighton et al.'s (2010) decision-based RTP model, participants' responses supported type of sport, position played, limb dominance, competitive level and ability to protect as second order sub-themes of sport risk modifiers important to the evaluation of participation risk in making return-to-play decisions. Participant responses suggested the addition of potential seriousness (a factor in step 1 of Creighton et al.'s (2010) model), environmental conditions, physicians' expertise and psychological state as sport risk modifier variables considered by athletic trainers (see Figure 6).

Type of sport. Participants voiced support for the type of sport being an important consideration when evaluating the level of risk athletes face when returning to play. Expanding on Creighton et al.'s (2010) model, participant responses suggested third order sub-themes of collision/non-contact, activity required, presence of an athletic trainer, and home versus away competitions as aspects of sport type that alter the sport participation risk. Participant #10 stated,

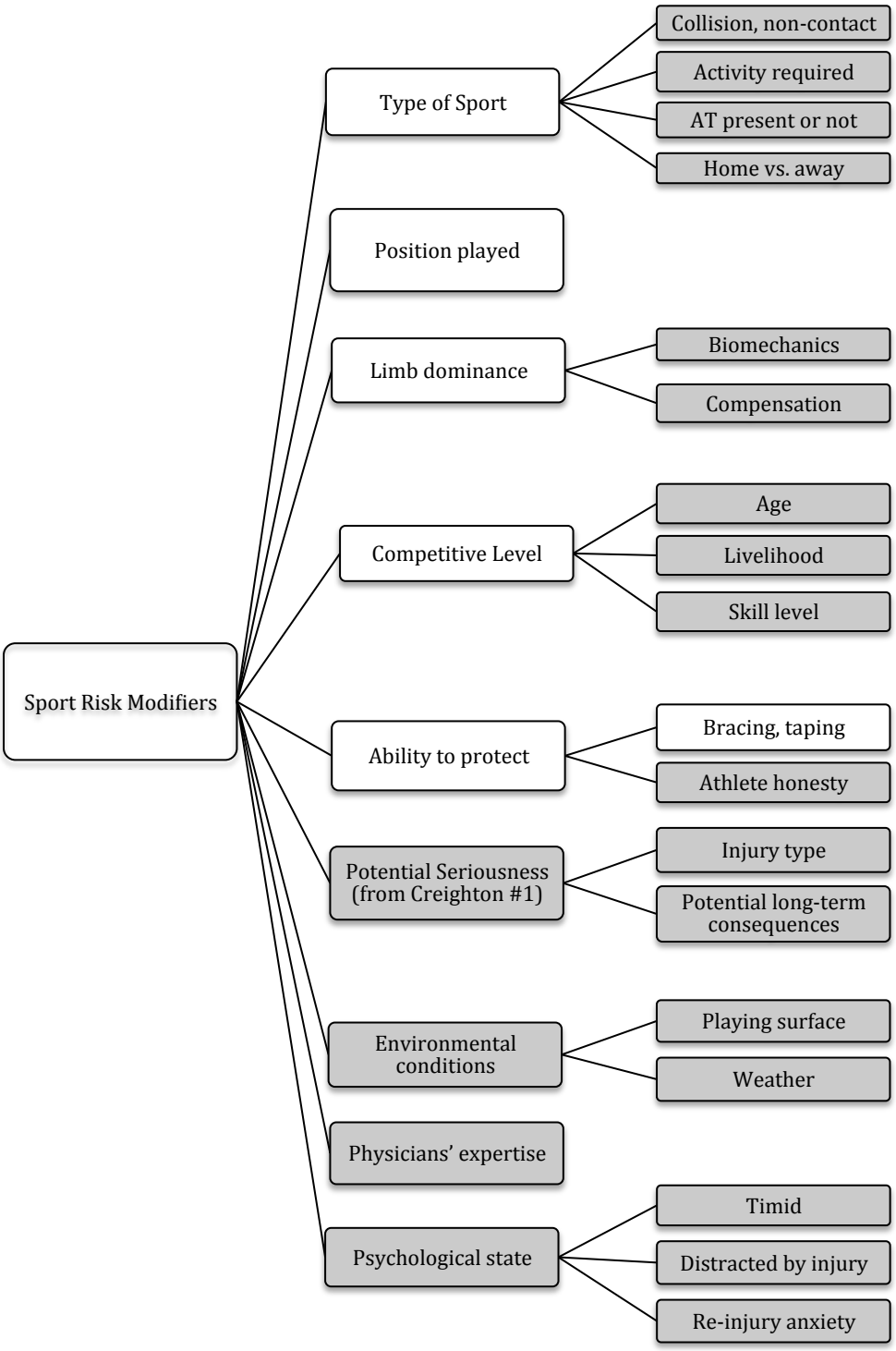

Figure 6. Sport risk modifier variables assessed by athletic trainers when evaluating participation risk. Shaded content indicates addition to or expansion of Creighton et al.'s (2010) decision-based RTP model.

> I think the sport just plays a huge role in return to play. You know, you can have a very similar injury, but a person that's going to be doing…you know, volleyball might return a little bit sooner than someone who's going to be doing football just because of the nature of the sport.

One participant (#12) indicated that the activity required within the sport is a critical element for risk assessment.

> You'll have someone who's…you know, like a sprinter that is working with a muscle-related injury, it's gonna take a lot longer to get back because sprinting is usually the last thing that…that they can start doing. So…um so those are ones, those quick, explosive activities…those are ones that I'm more conservative with as well just because I've found that…you know, I've been practicing for a long time and I've found that you try and return them too early, they just jump back in your face like, 'oh, well…I've reinjured myself.'

Participant #9 also noted that the ability to control the pace and intensity of the activity to which athletes return is also an important risk modifying variable.

> I think being in an uncontrolled situation. Um…so what we try to do anyway, is um…to put them in situations where…it's more of a drill-type of an environment, so they're really controlling their speed, their intensity, um…rather than being in the more chaotic and unpredictable nature of a scrimmage. And so I think that the unpredictable part, that puts athletes more at risk for injury in a setting where it's…you know, it's live…it's going…there's contact.

Participant #9 went on to highlight that the type of sport often dictates whether athletic trainers are present at practices or not. She stated,

> Other things that I think put an athlete more at risk, um…I think if you have…if you know your coaches well, and you have a good relationship with the coaches and that trust goes both ways, um…particularly in my setting where I am not at practice. So there has to be a lot… a good relationship with those coaches. If you have coaches you can't trust, I think they can mistakenly sometimes…not purposely, not maliciously, but put an athlete into a situation where reinjury could occur.

Consistent with Pike and Maguire (2003), she noted the lack of an athletic trainer's presence potentially contributed to the risk athletes faced in returning to play as medical decisions are left to untrained athletes and coaches.

Participant #7 explained that the location of the sporting event can also influence the risk of returning athletes to participation simply because of the equipment and personnel available at home versus away venues. He stated,

> You know, one of the great things about being at home is you've got access to hot packs, a full warm-up, you can get them there earlier and you have access to a lot of things. On the road, it's a bit more challenging…a bit more you know, whatever you can do, you do.

In summary, participants suggested that the dynamic nature of required activity, the control over the pace and intensity of that activity, and the amount of contact required in various activities all impact the participation risk. Further, the type of sport often dictates the presence of athletic trainers (Pike & Maguire, 2003). Participants noted that when athletic trainers are not present, medical decisions are left to untrained coaches who may not make the wisest health choices for athletes. Finally, the location of various sport

events can impact the type of equipment and personnel available to prepare and protect athletes, thus impacting participation risk.

Position played. Participants explained that the position an athlete plays potentially modifies the risk of returning to participation. Participant #7 stated in a minor league baseball example,

> if they are a starting pitcher, we're gonna take…it's gonna take them a little longer [to RTP] than a one-inning guy. Um…and uh an outfielder, if they've had a leg injury, they might be a little slower to get back than per se an arm injury for a second baseman. A second baseman can flip the ball all day almost with uh…minimal mechanical flaws just because the distance is so short. So it's a little easier on the shoulder at that point.

Similarly, participant #2 explained a high school football scenario,

> I'm thinking of our starting quarterback [he] has a shoulder injury right now and I think our return to play would be a little different for him because he's a quarterback with a shoulder injury than say…our lineman who had the same injury. So I think our quarterback would be held out longer than our lineman would. So, yeah I think positions and ability has some carryover into their return to play.

Finally, participant #6 stated that in baseball he considers, "what position they're at, 'cause if you've got a…a hamstring injury, you might send the first baseman out quicker than you'd send the center fielder out…defensively…offensively is the same risk."

Limb dominance. Two third order sub-themes emerged from participant responses regarding limb dominance as a sport risk modifier. More specifically,

participants in this study noted that altered biomechanics or compensatory movements due to injury increased the risk of participation. Participant #2 stated,

> Like if they're babying it…if they're not confident on it then something else could…get hurt. Maybe not what they're babying, but…if it's their ankle and they're babying their ankle, maybe they hurt their knee, or their other leg or something like that.

Another participant (#10) discussed a situation she had with a softball pitcher, "we had a talk about her mechanics, you know saying, 'There's a reason why you have rotator cuff problems…why you really put stress on your labrum. We need to make sure that you don't do that.'" She went on to state,

> I think it's stuff that they never really had to think about before, but now that they're injured, they're really gonna have to work on mechanics and…and just doing things proper so they don't increase that injury…or that risk of reinjury.

Thus, participants acknowledged that mechanical and compensatory issues could modify sport participation risk.

Competitive level. Participants described how the level at which athletes compete influences the amount of risk athletic trainers are willing to assume when returning athletes to play. Third order sub-themes of age, livelihood, and skill level were identified in participants' responses.

At times, participant responses hinted that athletes' age (a patient demographic factor in step one of Creighton et al.'s (2010) original model) was linked to competitive level with lower competitive levels often infused with younger athletes. Participant #1 stated,

> I haven't been in secondary school, but I would be way more conservative with secondary school athletes. And the uhh professional level, ummm many times it comes down to it is uhhh the athlete's choice. Uhh… we always talk about the risk and uhh make sure they understand if they might have to consult with their agent or their wives, but ummm, I think the professional level becomes, just because that is what they do for a living, we don't have to uhh worry about any other external factor and that's their life.

Similarly, participant #4 explained that his perception of acceptable risk was different for professional athletes versus college-level athletes. "When you're in professional ball, you're getting paid to do it, these are these people's livelihoods…that's different. And people can say whatever they want, it's different."

Participant #3 described that the level of competition can also lead to discrepancies in skill level that increase participation risk when returning from injury:

> Oh dear…um…I think it would almost come down more to skill level where I think JV football's the most dangerous thing on the planet because you have the kids that are just one step behind, you know, the starter who's really good and then you have 'Johnny-I'm-gonna-try-football-this year' who just gets you know creamed because he doesn't know what he's doing, you know?

This participant goes on to explain other factors that create differing levels of risk in various competitive levels.

> You know, the kid who barely plays versus the, you know, starting quarterback you know would definitely have a higher risk. Um…also you know what level are they returning to…practice or are they returning to a championship game, you

> know there's lots of…differences there. Also, you know what entity we're talking about…whether it's a high school or professional or you know a…amateur figure skater…there's a lot of different levels of risk.

Ability to protect. Consistent with Creighton et al. (2010), participants discussed how the ability to protect an injured part can alter the return-to-play decision. Participant #9 stated, "We do a lot of bracing and taping for our acute injuries. So for…use an ankle sprain as an example um…or even an injury like an MCL. Um…bracing and taping allow us I think to um…return them sooner than without." She later explained,

> I think definitely what we can do with bracing and taping can allow us to return an athlete sooner um…than to not have that. Um…and it does play a big role…we try to be careful with it…we try to be as…you know, conservative as we can, but um…we still understand that we want to get our athletes out there as soon as possible, as safely as possible. So many times what we'll do is…we'll put a big, hefty tape job on in the beginning, you know, to protect them as much as possible…and then we slowly, you know as they get stronger and as they're doing better, make that…we ween them off of that and make it less bulky.

Participant #8 noted that in some instances the ability to protect an injured part interacts with the position an athlete plays:

> Say there's a knee injury with a lineman. It's a little easier to brace a lineman…to take them down and brace them up versus a…a skill guy that has to do a lot of moving around…you can't really brace them up. Of course, if it's a DB [defensive back] and you put a knee brace on a DB, what are you gonna do on offense? You're gonna go after him [laughs]…A receiver? That DB's gonna try

> to jam him up and make him go into an awkward position. So I…I think it does like skill-wise…the skill position is a little bit harder, you gotta get a little more creative…I think the thing versus the bigger guys…'cause the guys that are in the trenches, they're not moving as much as those skill guys.

Expanding on Creighton et al.'s (2010) examples of padding or bracing to protect athletes, participant #11 explained that sometimes athletes need to be protected from themselves. Athletes' honesty, or lack thereof, regarding their symptoms influenced participation risk.

> I also treat the athletes, for right or wrong, like they're being completely honest with me [laughs]. And so if an athlete is not honest with me uh…with where they're at function-wise, where they're at pain-wise, I…I can't account for that. I can only account for what they tell me…There's some athletes I've learned over the years that need to be protected from themselves and are going to be consistently dishonest, or…maybe not dishonest, but incompletely honest uh…leave out key information um…and in those situations, I…I feel like they need to be…protected from themselves and that factors into the way I make return to play decisions with them.

Potential seriousness. As mentioned earlier, participant responses suggested that the sub-theme potential seriousness in step 1 of Creighton et al.'s (2010) model move to step 2 when reflecting athletic trainers' return-to-play decision-making experiences. Two third order sub-themes, injury type and potential long-term consequences emerged regarding the potential seriousness as a participation risk modifier. Participant #2 stated,

> For head injuries, I'm going to be way more conservative. For…um…for different injuries I'm going to be a little more aggressive. And then depending on the kid, I'd be a little more aggressive I think…but regardless on the head injury I'd be way more on the conservative side. Um…contusions, I would be a little more on the aggressive side…um…maybe because I don't feel they're as serious…so I think the more serious the…or the more serious I perceive the injury, the more conservative I'm going to be.

Similarly, participant #4 noted,

> What I would say is the level of risk we're willing to accept as far as reinjury. So…you know, we…and…and…that's different for different injuries. Um…you know, if you've got a stubbed toe and you're at risk of re-stubbing your toe, we might give them a little more latitude than we do somebody with a head injury or neurological problem. So…but ultimately I think what's the risk of re-injury? That is the guiding light….and…you've got to decide what you're willing to do.

Participant #11 explained that the potential for long-term health consequences impacted the potential seriousness and also played a role in determining participation risk:

> I think as much as you can you try and stick to that return to play criteria, the big thing being um…are they functional to a point that they can adequately participate, and then also is there the potential for things to get worse or for them to do permanent damage.

Similarly, participant #9 stated:

> I think also…my…my understanding of injuries will also influence it. Um…you know, those kids with the articular surface problems and those types of things that are just…not…the prognosis is just not good for their life, and um…unfortunately we have one or two every year that I'm sitting down with and saying, 'you really have to think about this.' And you know, that influences how I return them to play.

Finally, participant #5 described,

> Whether or not I have a kid out there with a grade II hamstring strain, that they're almost back…depending on the game and the situation, do I push it a little bit more? Probably with an injury like that. Because I think the long term effects…if that kid, you know takes two steps back because I pushed him too fast then, you know I feel a little bit better about that because I'm not impacting him long-term per se, you know it's just an extended length of treatment and um…holding him out longer. So, I think it's situational.

Participants suggested that the potential seriousness of an injury is dictated not only by the injury's characteristics (e.g., location, severity), but also by the potential for long-term harm if ignored. Participants pointed out the increased sensitivity to head injuries and their potential long-term consequences as a prime example.

Environmental conditions. Participant responses suggest the addition of environmental factors as a second order sub-theme of sport risk modifiers that athletic trainers consider when assessing participation risk. Third order sub-themes of playing surfaces and weather conditions were identified in participant responses. As participant #11 noted,

> Sometimes environmental conditions can play into that uh…you know, returning someone to…say with an ankle injury, returning someone to a court sport where you don't have to worry about environmental conditions versus uh…returning them to soccer, lacrosse uh…something with an uneven surface. And sometimes it will change depending on weather conditions. If it's been wet and muddy, the surface reacts differently versus a hard surface uh…temperature is also not in your control…a lot of things you can't account for.

The addition of this sub-theme resonates with Wiese-Bjornstal's (2010) inclusion of extrinsic physical factors, such as weather and playing surface, in her development of a composite sport injury risk profile.

Expertise of physicians. Participant responses further suggest that physicians' level of expertise regarding athletic injury and return-to-play criteria is a variable that could impact participation risk for athletes. Participant #10 explained,

> It was sometimes difficult sending them to a doctor to get them cleared for something when the doctor doesn't understand it…and you know, they go to a gen[eral] med[ical] doctor, and they do great with gen med stuff, but they're not an 'orthopod'…an orthopedist that understands what that athlete needs to do to be cleared, and some people get cleared and you're like, 'are you kidding me?' like, 'he really cleared you? No,…you might have a doctor's note, but no, I don't feel comfortable with doing that.'

Another participant (#12) voiced similar concerns:

> We have had instances where you know, athletes have been cleared with things that they should not have been cleared with um…and so when we find out about it

> we definitely end up um…we and our team physician…and a lot of times here, we will rely on our team physician because we will…if we have someone cleared by someone that we don't know and we feel leery about what is going on, we will have them see our team physician and…and we can trump that. And…and it's not pretty [laughs]…we've had to do it and we've had some long conversations with athletes and/or coaches that are not happy, but um…you know, in those instances, we felt it was actually putting the athlete at risk and we felt it was necessary and it was important.

In competitive sport, when athletes are covered by individual health insurance policies, situations arise where the health insurance provider dictates which physicians athletes are allowed to see (e.g., HMOs and Preferred Provider Organizations). If those physicians are not part of the sports medicine team, potential conflicts can arise regarding return-to-play criteria. Courson et al. (2013) and Herring et al. (2013) both emphasize the importance of the team physician having unchallengeable authority to overrule outside physicians' return-to-play decisions if it appears athletes are being placed at increased risk for injury.

Psychological state. Participant responses indicate that athletes' psychological status, in addition to being a medical factor in evaluating health status, is also a factor that modifies the level of participation risk. Third order sub-themes of being timid, distracted by injury, and re-injury anxiety were identified in participant responses. Participant #8 explained,

> Boy, it's[psychological readiness] huge 'cause they'll be timid out there. They're not gonna go full speed. They're gonna go and…well, it doesn't matter what

> level you're at, if you're not going full speed and you got…you got somebody else going full speed [laughs]…you're setting yourself up for failure [laughs]…Yeah,…you got a kid that's out there going 100-miles an hour and another kid that's timid, it's…it could get ugly.

Another participant (#12) echoed those concerns:

> You know we talked about the psychological thing earlier, if they are constantly thinking about that injury and how it occurred and how to protect themselves, I feel like they are putting themselves at risk for further injury because they're not focusing on the game, they're focusing on their injury. Um…so if they are…if they aren't feeling ok enough to go 100%, I feel that that is something that could put them you know, more at risk for injury or for reinjuring themselves.

Participant #6 described how re-injury anxiety can increase injury risk.

> you always talk about the return to play physically, but the return to play mentally is just as important. Um…'cause if they're mentally not there uh…if they're thinking…you know…I hear players saying, "you know, my shoulder feels fine. It doesn't hurt when I throw, but I'm thinking about it every throw, so I can't let the ball go. I'm timid"…and you're never gonna get over that hump – scared of getting hurt again, you're not gonna get to that point where you were before and it's only gonna hurt your career, or your season…or…or some other body part until you get…until you get to that point

Participants' reflection of psychological state as both a medical factor and a sport risk modifier may result from the disconnect between athletic trainers' knowledge that psychological readiness is important to overall health assessment, but not having the

clinical confidence in effectively evaluating psychological state as an element of health status (Stiller-Ostrowski & Ostrowski, 2009). Left unattended, athletes who are not psychologically ready are returned to play, but at a greater participation risk.

In summary, participant responses indicated that Creighton et al.'s (2010) list of sport risk modifiers be expanded to include sub-themes of potential seriousness, environmental conditions, physicians' expertise, and psychological state in order to accurately encompass athletic trainers' experiences in evaluating athletes' participation risk. Consistent with Creighton et al.'s (2010) original model and previous studies (Anderson, 2007; Safai, 2003), participant responses indicate that athletic trainers attempt to manage participation risk by objectively evaluating athletes' health status (step 1 of the model) and the sport risk modifiers present (step 2 of the model) in individual situations. Participant responses reflect understanding that all sport participation involves some risk of injury; however, return-to-play decisions are made with specific intent to accept only sensible risks (Safai, 2003).

Step 3: Decision modifiers. Participant responses provided evidence for revision and expansion of this step in Creighton et al.'s (2010) model when applied to athletic trainers' return-to-play decision-making. As seen in figures 7 and 8, with the exception of masking the injury, Creighton et al.'s sub-themes for decision-modifier variables were all supported. As hypothesized in Figure 4 and consistent with McFarland et al.'s (2007) investigation with sports medicine physicians, participant responses supported the division of decision modifiers into second order sub-themes of internal and external sources.

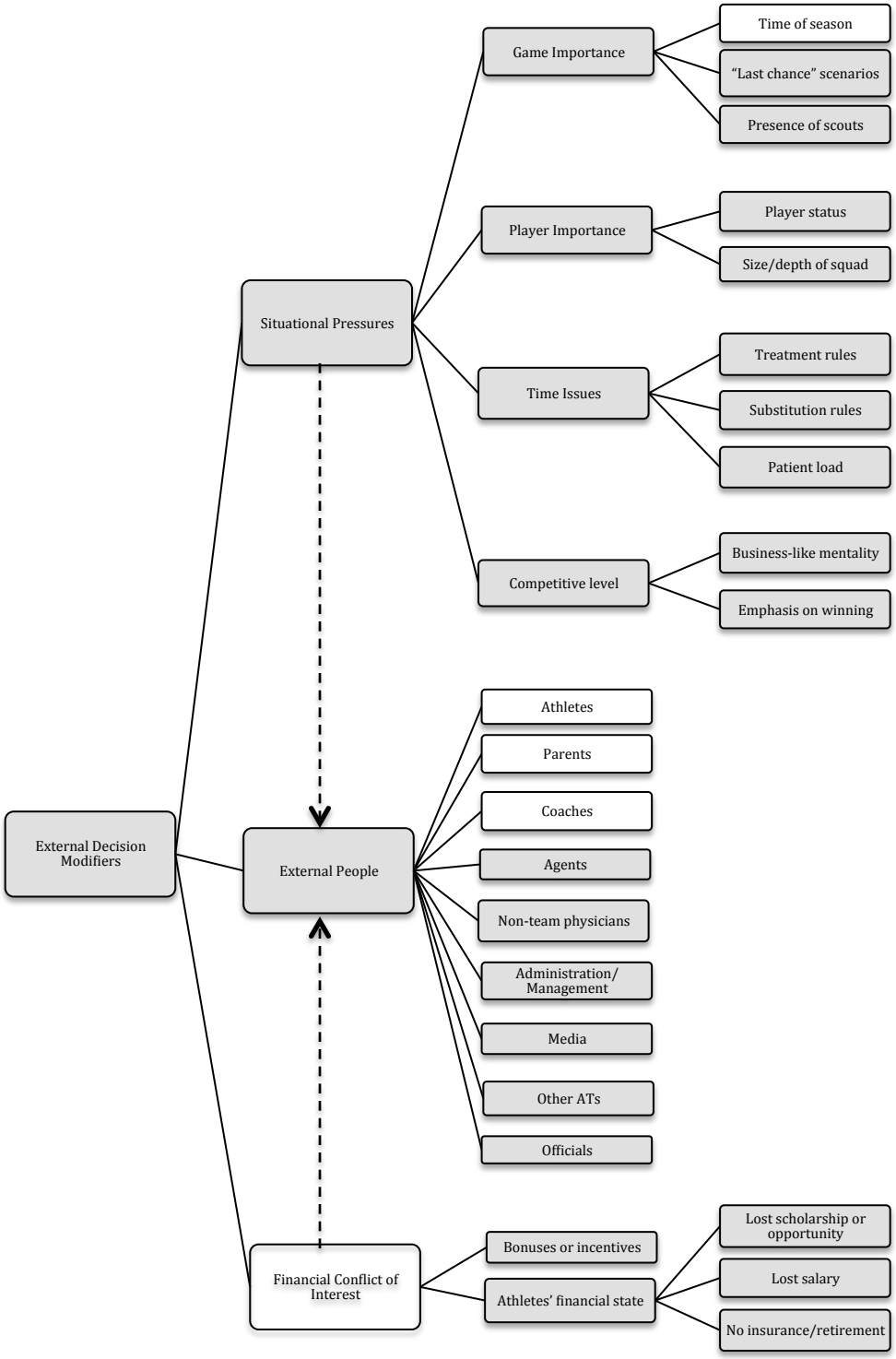

Figure 7. External decision modifier variables confronting athletic trainers in return-to-play decision-making. Shaded content indicates addition to or expansion of Creighton et al.'s (2010) decision-based RTP model.

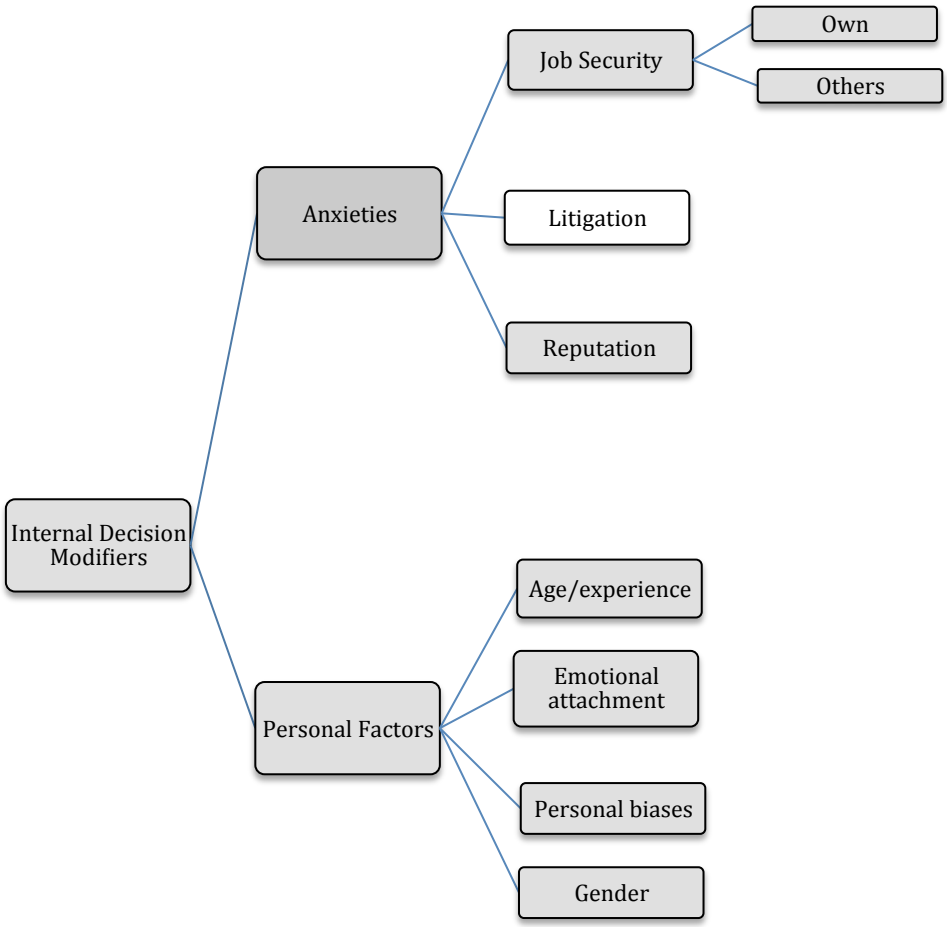

Figure 8. Internal decision modifier variables confronting athletic trainers in return-to-play decision-making. Shaded content indicates addition to or expansion of Creighton et al.'s (2010) decision-based RTP model.

Externally, participant responses were organized into third order sub-themes of situational pressures (incorporating Creighton et al.'s (2010) timing and season), external people (incorporating Creighton et al.'s pressure from athletes and external pressures), and financial conflict of interest (incorporating Creighton et al.'s conflict of interest) (see Figure 7). Internally, participant responses were organized into two third order sub-themes. The first sub-theme, anxieties, integrated Creighton et al.'s (2010) fear of litigation factor while the second sub-theme, personal factors emerged from the data (see Figure 8).

As mentioned above, Creighton et al.'s (2010) original decision modifier of masking the injury was not supported as a decision modifier of importance in athletic trainers' experiences when making return-to-play decisions. Similar to the participants' earlier omission of lab tests as a factor in step one of the model, this omission may also be the result of professional practice boundaries. Masking the injury, especially if done through pain medications, lies outside the scope of practice of most athletic trainers (NATA, 2011). Again, athletic trainers would most likely rely on the expertise of their collaborating team physician to prescribe injury-masking medications.

External people. Participant responses suggested an expanded number of people who potentially influence athletic trainers' return-to-play decisions than originally presented in Creighton et al.'s (2010) model (see Figure 7).

Athletes. As indicated in Creighton et al.'s model, athletic trainers encountered pressures from athletes regarding return-to-play. Participant #10 commented, "I think the athlete themself …I think when they're dealing with the injury, they want to be back sooner rather than later, and if…if it's…especially if that athlete has never been injured

before, that's a new experience." Participant #11 described a situation he encountered that exemplified an athlete's desire to compete despite injury:

> One of the first ones in my career that stands out is a uh…a high school football player took two…took two blows from a helmet directly to his abdomen in the first half of the football game. And at halftime, um…had hematuria um…had some nausea associated with that um…trying to…to convince that athlete that uh…it was in his best interest not to participate, to have his parents take him to the hospital, um…while he's trying to influence me that um…this can happen from time to time, this is one of those things that can happen in football and uh…that he should be allowed to go back in. Um…you know…things like that kind of stand out.

Another participant (#3) encountered a similar desire to return-to-play against medical advice in a rodeo athlete.

> You know the ones who get out of…you know…hobble up to the horse on a walking boot, you know, and then hop on are like, 'I'm not weight-bearing while I'm riding.' And I'm like, '[laughs] holy crap!' It is crazy…it's just, you know, it's…it's…they're just a whole different mentality and beast. It's very interesting.

Participant responses support previous research indicating that some athletes will attempt to conceal pain and play through injury (Curry, 1993; Krane et al., 1997; Malcom, 2006; Pike & Maguire, 2003; Waldron & Krane, 2005; Walk, 2004; Young & White, 1995: Young et al., 1994).

Participants also encountered pressures from athletes to delay their return-to-play following injury as revealed by participant #4,

> Yeah…I get pressures all the time from athletes. I get pressures all the time from athletes to come back to play sooner than I think they should, I also get…pressures in a different way from athletes who don't want to go back to play, you know, and I think they're ready to go. So it's…yeah…it can get both sides of that…oh yeah, absolutely [laughs].

These findings support previous research that athletes fall along a continuum of behaviors relative to playing with pain and injury (Hughes & Coakley, 1991), with some athletes pushing towards overconformity while others tend to malinger (Walk, 1997; 2004).

Parents. Participant responses suggest that just as athletes fall along a continuum of behaviors regarding return-to-play, so do their parents. Participant #10 noted, "Yeah, I think some parents kind of get it and some parents just don't. They're telling you when their child should go back to play and how that's going to affect their season." Similarly, participant #3 stated, "you know, parents run the whole gamut, you never know what the heck they're gonna say and they can change their mind at any moment in time."

> Participant #2 attributed some of these parental differences to social stratification, We have some…uh…and I don't want to say it's the school that I'm at, but I think it is the school that I'm at, that they have a very high opinion of themselves. They're [from a] more affluent area. Uh…we see those issues more than some of the inner city schools, or more of the downtown schools. They're not going to see those types of issues with the parents.

Participant #2 went on to describe a specific experience he had with the father of one of his athletes:

> We had just this last football season…we have a chronic shoulder dislocator…like, you look at him and his shoulder dislocates. And it would dislocate in game after game after game and practice and…um…we were trying to hold him out…and Dad was very adamant that he could be playing and you know, all we need to do is wrap it and…um…dad's kind of living vicariously through son and who dad thinks son is way better than he is and…um…you know, trying to get him into a D-I school and he's not a D-I athlete…he's not even our best receiver…and dad sees him as our best receiver and…you know, that he's gonna go D-I and…um…you know, 'there are scouts here and he needs to be out there playing'…and you know,…he can't even take both arms up overhead.

Another participant (#3) recalled the following experience with the mother of a high school athlete:

> This one lady told me, she's like, 'I don't think you understand what a crappy weekend I'm going to have when this kid has to bitch about going up and videotaping this…this soccer game instead of playing in it.' And I'm like, 'you've got to be kidding. You're letting a 16-year old kid…you know, run how you feel about yourself instead of saying hey, this is important for your health, I don't care what you think, you're not playing.' You know, it's just like, 'be the parent!' That kind of stuff always takes me by surprise.

Participant #12 described how some parents would go to extreme lengths to try to allow their children to participate despite athletic trainers' recommendations otherwise:

> We have had instances where an athlete was…was held out for a head injury and needed to see a doctor for clearance, and…where…where parents have threatened

> to sue us for holding their athlete out and wanting them to see a physician, which as an athletic trainer I don't understand that because it's their head and it's their child, but um…you know, that was like the one worse case scenario that I have had.

In a similar vein, participant #9 recalled parents' attempt to circumvent her return-to-play decision:

> Another concussion situation, we had a girl who um…went doctor shopping um…her parents took her doctor shopping and…in an attempt to say, 'well, here's her clearance.' Um…so I guess they attempted to influence our return-to-play. That was a no-brainer, pardon the pun, but we said no.

Participant #2 faced similar parental behavior, "we have some parents who'll go out and doctor shop till they find the right answer...or the one they want."

Participant #11 noted that the competitive level at which he worked influenced the amount of parental influence he encountered, "yeah…I mean, it's…it's come up, but most of those were at the high school level and since I'm at the college level, parent involvement has been minimal." However, participant #4 described a different experience at his collegiate setting,

> I have a football mom from last year who my two staffers call "my girlfriend" because I talk to her more than my wife. She calls me daily. Um…we deal with…I…I think the advent of what we call here "helicopter parents," um…has become much more prevalent.

One participant (#3) discussed the challenges of dealing with parents when the family unit is fragmented.

> It's odd not being in the school and not knowing everyone's family dynamic, you know. And so I've learned to say, 'who should we call when someone's hurt, you know' because you never know what the heck they're gonna say. It might be the stepdad, it might be the stepmom, it might be the other mother, you know, who knows sometimes it's the aunt…you never know. And when you have a mom and a dad that no longer live together and they each have different ideas about what's going on, and you might talk to one and you might think you're cool, and then you get this nasty phone call from this other person that you don't even know who it is and it's kind of…it's difficult.

These results support the contentions of Roderick (1998) and Murphy and Waddington (2007) that members of the sportsnet, in this case parents of athletes, can be bound by social norms, expectations and relationships that influence their actions. As evidenced here, social, financial, developmental and relational issues can affect parents' behaviors. As participants noted, just as athletes are positioned across a continuum of behaviors relative to playing with pain and injury, parents demonstrated a similar range of behaviors trying to influence participants' decisions regarding their child's ability to participate through pain and injury.

Coaches. Similarly, participants indicated that coaches span a continuum of behaviors regarding their attempts to influence return-to-play decisions. As participant #12 noted,

> So, we do have some coaches that are great and understand, but…we have some that…it doesn't matter what we do or say, like they're just constantly going to

> have something to say about it….you know, something to say why they think the person should return quicker. Um…so you know, it's definitely been a mix.

Participant #3 indicated that whether coaches attempt to influence athletic trainers' return-to-play decisions may be predicated by coaches' familiarity with athletic trainers. She stated,

> I remember having this conversation with a football coach…it was his first year and he was coming from a league that didn't have athletic trainers, and he was coming in and it was kind of hard for him to kind of make the switch from what he would decide all the time to now there's this other person in the mix and he's never had to rely on that person. It's nice that he doesn't have to tape, but 'hold on, you're gonna tell me who's gonna play and not play and what's the deal here.'

Participant #8 recalled situations where coaches pressed for a more conservative approach with athletes,

> There was a couple…couple times where the head coach was like, 'ahhh, I just don't want to do anything.' I was like, 'he's ok, coach' but he just didn't want that guy to practice or anything, but that was one thing too, he…he knew his players and he knew this guy will be ok, as long as he's standing here just watching practice and rest, he'll be ok. Where I was like, 'he can go, he'll be ok, you know, just keep him limited…' And he was like, 'well if he's not gonna go full-go, then I don't really want him to go so we'll just hold him out and go from there.'

While another participant (#10) described how some coaches are constantly pressing to have injured athletes back.

a coach walks in and says, 'well, we need him or we need her.' You're like, 'I understand that. I don't…' I mean sometimes you just have to be like, 'I don't want them in my training room either. I would love for them to be out. So I will get them back to you as soon as possible.' You know, and so sometimes…that interaction every day with coaches like you know, 'how's so-and-so doing?' 'They're doing good.' 'Can we have him for this?' You know, they always keep asking how much can I take from this athlete? So I think coaches are the number one for me… having just to say, 'I will let you know when they are ready. I will let you know what they can do, but in the meantime just worry about your ten other people on your team, rather than the one that I have right now.'

Participant #3 commented that the prevalence of pressures from coaches to get athletes back to participation may be 'normalized' by athletic trainers,

My neighbor, who is one of my friends, came to a game one time, and to have them see what goes on that you don't even really think it's a big deal, and she's like, 'I cannot believe that you're trying to evaluate this kid and the coach is like, 'can he go? Can he go? Can he go?' and you have to turn around and go, 'give me a minute and I'll report back!' you know and it just rolls off the tongue like that to me is not even something that I pay attention to, you know, and it's funny when someone else comments on it and you're like, 'yeah, that is kind of nuts!' you know, but it just becomes what is normal to you, and the amount of crap that you can forgive on the sideline is…is nuts. Like if anyone did that to me at the grocery store, I'd probably punch his lights out, you know…its…its nuts.

Participants' experiences with coaches pressuring return-to-play decisions are consistent with Wolverton (2013) who reported that nearly one-half of major-college football athletic trainers who responded to a survey felt pressured by coaches to return concussed players to participation before they were medically ready. However, the other half of the study's respondents have then *not* perceived pressure from coaches to return injured athletes prematurely. Arguably coaches may succumb to the same social norms, expectations and relationships that influence their actions regarding athletes playing through pain and injury (Murphy & Waddington, 2007; Roderick, 1998).

Agents. Participants with experience at the professional level indicated that agents were another potential influence in making return-to-play decisions. Participant #6 stated, "yeah…you definitely get…you get pressures from management, you get pressures from agents, which…which in reality an agent is…an agent is an equivalent of parents in terms of that." Participant #4 noted,

> Agents make money on their athletes, their athletes make money when they perform well. So if their athletes aren't performing well the agents aren't making money. So, yeah, it's kind of a…it's…for a pressure for healthcare standpoint, it's not a healthy relationship because there's ulterior motives in their reasoning for why they want certain decisions made. There's just no question about it. So…you will either see the agent who wants their athlete playing faster than they should, or you do have the star athletes who make big money where agents say, 'are you really sure, because this is my golden goose' you know. So…yeah, they're definitely a big influence, no question about it.

It appears that agents' behavior also falls along a continuum from pushing for a faster return-to-play to pulling for a more conservative approach to protect the athlete from possible harm. From participants' responses, financial concerns seem to mediate agents' actions.

Non-team physicians. Participant responses indicated that athletes seen by physicians outside of the sports medicine team create conflicting pressures on athletic trainers. Participant #2 noted,

> We do see a lot of the kids with…the [HMO] insurance or this insurance or this and this, and they have their own doctor that they go to. We even have some who have friends who are doctors,…so then it's like…not on the books or anything but, 'oh, he can go back and play…I'm a doctor.' 'Well, no you can't.' 'Well, who are you…you're *just* an athletic trainer…I'm a doctor' So we've kinda had a few of those issues.

Similarly, participant #12 stated, "every once and awhile, you know, you get athletes who will go to a doctor or a physical therapist or something that you don't know that gets cleared or released and then sometimes we have to like, 'whoa, what's going on?'"

Although most participants spoke of athletes being cleared to return-to-play prematurely by outside physicians, one participant (#10) noted that consultation with an outside physician sometimes leads to a slower return-to-play. She explained,

> if a doctor comes and they say, 'this athlete cannot return to play in three weeks' and he [the athlete] went without me even knowing he went to a doctor, I have to follow what that doctor says. Even if that athlete is ready…and I think it's even more to make a point that you need to have good communication with your

> athletic trainer. So if he says, 'I'm ready' in a week, 'I cannot let you go until this date. My initials do not override the doctor's initials.'

Administration/Management. Participant response indicated that in some situations, administration and/or management may attempt to influence athletic trainers' return-to-play decisions. Participant #5 recalled,

> I've just observed recently with our administration feeling the need to get involved with…questioning why a kid could not play from another athletic trainer. So…'why does a nasal fracture hold a kid out more than a week? Why does that kid need surgery now, can't we put it off a week?' And it's the first time I've ever seen that from an administration. I've seen it from coaches, but um…it's been interesting for me to watch that interaction because…I feel like administration can make or break your job. And so it's the pressure of getting fired um…that has increased the pressure.

Another participant (#11) stated,

> At the high school level, I had the…the athletic director um…try and convince me on a couple athletes…try and…not um…give me some pressure because the…the key athlete if he was not participating then the team's chances of winning went way down, and so he really tried to approach it from a team standpoint and uh…'what can we do?' but also…you know, brought it to me from the perspective of, 'Is there a way we could allow them to participate but still protect them so that it could still help the team?'

Participant #4 pointed out the importance of good relations with administration and management when making return-to-play decisions.

> I mean, I can think of a person in our league right now that does not have the…the support of their administration and puts them in situations that are detrimental to the health of their student-athletes um…and…I …I…if you don't have the support of your administrator, you're in big trouble and your athletes are in big trouble…as far as the health care decisions.

As seen previously with agents, administration and/or management may also push for a more conservative approach to return-to-play decisions in order to protect assets. Participant #6 stated,

> Now in the minor league level, and I've…I've run across this…um…you also run into the thing, 'well, let's get them back a little later than sooner.' There's no sense in this guy…say he's…on the cusp of going up to the major leagues and they know he's gonna go up sometime and when they say, 'oh, he's not gonna go up anytime soon, make sure he's right so when he gets back, he's gonna be able to come up without any issues.' So, in that case maybe we do take an extra week.

With administration and management, the repeated theme of a behavioral continuum appeared. Roderick (1998) and Murphy and Waddington's (2007) suggestion that all members of the sportsnet are impacted by socio-cultural influences is supported.

Media. Participants had mixed responses regarding the influence of media. Some participants had encountered media attempts to influence while others had not. Often the difference in experience was a product of the competitive level at which they worked. Participant #9 indicated, "At our level, no. Obviously we see it at other levels. Um…I have never had that happen…no. We just don't get media coverage in…in general."

Participants who have worked events with media coverage have encountered feelings of pressure. Participant #3 noted,

> You do have some of those pressures you know where I'm evaluating an athlete who's been unconscious and you know it's the prelims and it's televised and they're kind of wanting to, you know, scrape up the dead meat, you know, move it somewhere else so you know the course can continue.

Participant #5 noted that the media representation of injury mediates other influences in the return-to-play decision-making process. She stated, "So I think, like the media sort of fuels the other parties to pressure you or make you question yourself." She went on to state,

> I know…there have been a couple instances with our athletic trainer that deals with women's soccer and the media presenting losses due to injury um…which he then took personally and you know, if he would have returned that kid a week earlier, would they have won? Um…if the media hadn't said that, maybe other people wouldn't have thought that…he wouldn't have been pressured by other parties as well.

High profile or upper-competitive level sports produce more media interest. In those situations, media can be a decision-modifier variable.

Other athletic trainers. Participant responses indicated that athletic trainers may intentionally or unintentionally influence colleagues' decisions through comments about return-to-play decisions. Participant #5 stated,

> Sometimes I think other athletic trainers…um…it's like…I think it's very easy to become critical of other athletic trainers…um, like 'oh I would have got them

> back sooner,' or 'I would have held them out longer, what were you thinking?' So then it creates this like…questioning effect. Again, not that it dictates your return to play decision, but you question it a little bit when you have that sort of atmosphere where, 'well I would have done it this way.'

Officials. One participant (#11) noted that officials' reactions can also affect the return-to-play decision process. He stated,

> You know, occasionally an official will try and brush aside the severity or…or try and hurry up the return to competition, not so much from that injury perspective, but more of that they have a timeline and they want to get the injury going again and hurry things up. Um…so I guess occasionally an official will try and rush you into getting something done um…, but it's not necessarily trying to return the athlete to competition, it's just trying to get back to competition.

In summary, participants indicated that they experienced a number of external people attempting to influence their return-to-play decisions. This resonates with previous research (Anderson & Gerrard, 2005; Dunn et al., 2007; McFarland et al., 2007; Swisher et al., 2009; Tucker, 2004) that stated a key issue faced by athletic trainers and sports medicine physicians was pressure to return athletes to play before they were ready. This study expands on this research by identifying the specific sources of those external pressures experienced by athletic trainers. Of interest, while previous studies described the external pressure primarily as attempts to accelerate the timeline for athletes' return-to-play, the findings in this study note that at times external sources also applied pressure to slow athletes' return-to-play. Roderick (1998) and Murphy and Waddington (2007) suggest that all members of the sportsnet are bound by social norms, roles, expectations

and relationships that may drive their degree of conformity to the "culture of risk." Through this study it is apparent that these external people are spread across a continuum of behaviors regarding their influence on athletic trainers' return-to-play decision-making.

Situational pressures. Participant responses indicated the presence of a third order sub-theme of situational pressures as external decision modifier variables encountered by athletic trainers when making return-to-play decisions. Fourth order sub-themes of game importance, player importance, time issues, and competitive level further described the situations with potential influence in return-to-play decision-making (see Figure 7). Participant responses indicated that situational pressures influenced athletic trainers' return-to-play decision-making directly (as indicated by the solid line in Figure 7), but also impacted the degree to which external people attempt to influence return-to-play decisions (as indicated by the dotted line in Figure 7).

Game importance. As seen in Figure 7, participant responses indicated three fifth order sub-themes that impacted the perceived importance of a game. These included: the time of the season, "last chance" scenarios, and the presence of scouts.

The time of the season or the proximity to playoffs influenced athletic trainers' return-to-play decisions. Participant #1 stated,

> Sometimes it is like the very last game of the year or the Super Bowl and somebody has the grade II MCL and you know it's 2 weeks and you know that there's no chance that physiologically that MCL has been healed, but if that's what athlete wants to do, that's what coaches want them to do, then I think we would do everything we could do to let them play. Obviously, it's not their maximum uhhh level that uhhh they could participate, but uhhh I have sent

> several people like that back. And it's not that miracle, we are just pushing the envelope more for them to get back to play.

Another participant (#6) noted,

> If you're in the playoffs, you're gonna take that risk every single time…especially if it's…say if it's one of your better players on the team um…you would rather have him out there at uh…um…the Redskins game was a perfect example of that. …it's a playoff game and you'd rather have your quarterback at…your starting quarterback at 80% than your back-up at 100%.

Participants also noted that situations where athletes were encountering a "last chance" to accomplish something impacted return-to-play decisions. Participant #11 shared this example,

> [In] the 2008 Olympic trials where there was a discus thrower who during warm ups strained his groin, um…but ultimately this was kind of his last shot to try and make an Olympic team. And I knew based on the nature of his event, that the chances of him doing that were pretty minimal, but if someone's worked twelve…sixteen years to be in that situation for a one-time shot um…I…that is really hard to take away from them versus letting them try and make their own determination of whether they can or can't do it. Uh…so I put a hip spica on him to try and give him some support…double length ace wrap, even six inch on a guy this size though…and I only had one, uh…didn't…didn't do a whole lot…I cinched it as tight as I could and he went back in the ring and um…spun around and didn't even let go of the disc and knew he couldn't do it….couldn't go.

Another participant (#9) shared similar experiences at the collegiate level.

I'm pretty forthcoming with the fact that our seniors are special. It's…it's their last go-round and um…I've got a couple of good examples of that. Um…we had an athlete tear her ACL her senior year…and again, those are situations we work very closely with our team physician on…you know, can we rehab it and see if she can maybe make it?…um, but again, those are very unique situations. Yes, those circumstances influence my return to play in certain situations. Um…you know wherever we can, as safely as we can…and going through the proper channels, I would do it for a senior and not for a freshman. You know, so I would say, yeah that…that changes things.

Participant #2 noted that the presence of scouts at games impacted the perceived importance of the game and influenced return-to-play decisions.

I guess at college level, a pro scout coming…but I think that kind of…sometimes…depending on the severity of the injury…you know, 'yeah, maybe you should ice and come out' but there's a scout there, 'ok, it's not that bad, keep going'…knowing that we have a little bit of time to rehab you back before whatever it is…I guess, you know, if like the timeframe is ok enough…knowing that going back, you 're not going to you know, tear your ACL, or you're not gonna you know…break a bone, you might just strain it a little bit more. It's gonna get a little more sore, but…you do…you are able to go back and play. I think it would…I think I would let a kid go back if the scouts were there and it wasn't too severe…as if the scout weren't there, I would say, 'come out.'

In summary, the time of the season, a potential "last chance" for an athlete to compete, or the presence of scouts at competitions increased the perceived importance of

the game and influenced the return-to-play decisions of these participants. These results run contrary to Flint and Weiss (1992) where athletic trainers were not swayed by game importance in hypothetical decision-making scenarios. This study offers real-life confirmation that game importance does influence athletic training decision-making as suggested in hypothetical scenarios in Covassin et al. (2009) and Mazer et al. (2010).

Player importance. Participants indicated that the importance of the player to the team created greater potential influence on return-to-play decisions. Two fifth-order sub-themes, player status and squad size/depth, emerged as factors influencing a player's importance. Most participants emphasized the ethical expectation that athletic trainers treat everyone equally (NATA, 2005), however they acknowledged that the status of the player impacted the amount of influence external others, particularly coaches exerted on them. For example, participant #3 noted,

> Oh my gosh, I think with coaches, if it's someone they don't need, they don't really care…'you can do whatever, keep them out another week if you want to, la, la, la…' but you know if it's…you know, 'we really need a running back' you know and, 'we really need him right now' Um…but you know, our protocols and everything are the same, whether he's warming the bench or if he's a starter, but you definitely, you hear a lot more from the coaches and stuff like that.

Participant #2 shared similar experiences:

> Then you get the bench player, compared to the starter, and sometimes they [coaches] don't care about the bench player. You know, 'oh, ok that's fine.' You know 'so and so's not ready to come back yet.'…'oh, ok'…[laughs]…You know,

> he's the third string left tackle…'ok, fine'…you know, as opposed to 'your starting tailback's not quite ready' …'What? What can we do to get him ready?'

Participant #1 did acknowledge, "Of course we all…like the mission statement is we all want to treat everyone equally and uhhh which is a great mission statement but you all know that's not the case [laughs]."

Several participants also explained that the size or depth of the squad impacted the perceived importance of an injured player and thus altered the amount of attempted influence placed on participants regarding return-to-play decisions. Participant #3 shared this encounter with a coach,

> We were playing [school name], and of course [school name] had won two previous state championships and it was this next week and this guy [coach] came in…into the training room and was like, 'hey, how's it going, blah, blah, blah…yeah, ok, just to let you know that we're running out of bodies here and you know, we literally might not have enough kids to suit up on Friday night and you know…we're thinking about cancelling the game altogether because you know, it's gonna be dangerous for our kids…like we might need to forfeit. You know, and I just wanna talk to you about these two kids' you know…and one of them was a concussion and one of them was a hand fracture…and 'you know, if we don't get these two kids back, we're either gonna have to forfeit the game or we're gonna lose so badly that it's gonna be all over the papers and I could lose my job and as a PE teacher I probably cannot feed my family.' And I'm sitting there going, 'You did not just say, if I don't return these two kids that your children can't eat.' You know, like I was thinking to myself, 'this man is nuts!'

Another participant (#4) echoed the influence squad depth has,

> Well, when their best players are not participating…and even at our level [NCAA D-III] where there's less depth…a star player can be the difference between a great season and some of your alumni donating money and what not, or a poor season, I mean it's…I mean the depth at our level is such that…you know, I tell you right now, we…we had a winning football team last year. We had one guy on our team that if he doesn't play, we will not have a winning season. He's that important to us.

Another participant (#5) explained that squad depth decreased the amount of pressure she encountered from coaches regarding return-to-play decisions.

> Surprisingly enough, that institution…and I don't know if it's because they have such a huge pool,…that they don't pressure, they would rather have that kid at 100% um…because they have another kid right behind that person that will outplay them at 80%.

In summary, when players of greater importance to a team's success are injured, athletic trainers experienced greater input from external others attempting to influence return-to-play decisions. Also, when teams did not have much depth players became increasingly important to return-to-play, whereas teams with greater depth may be more accepting of a player's absence due to injury. Consistent with Flint and Weiss (1992) and the ethical expectations of the athletic training profession (NATA, 2005), participants in this study were not swayed by players' importance in their ultimate return-to-play decisions; however, they acknowledged that strong attempts to influence their decisions were presented by external others in these types of situations.

Time issues. Participant responses indicated that situations involving time urgency increased direct pressure on athletic trainers' return-to-play decision-making, as well as increasing the amount of influence external people exerted on athletic trainers. Fifth-order sub-themes of treatment rules, substitution rules, and patient load typified the situations that increased a sense of time urgency. Participant #12 explained,

> So we have wrestling [laughs]…so that's always pressured by time. Um…you know, for the most part with injuries in wrestling like there's a certain amount of time that you get to make a decision, and I hate that because I don't feel…I…I feel like it makes you more likely to return someone because you don't necessarily get time to do a full, thorough evaluation. And um…so definitely during wrestling tournaments and things like that you feel pressured all the time by time because you've got a certain amount of time and you've got coaches yelling in your ear, the wrestler's telling you they want to get back, and so it makes it difficult.

She went on later to state,

> like I said is with wrestling. I think a lot of times there are things…and athletes go back in to wrestle too quickly because, you know, you've got a couple minutes and you go, 'ok, is anything broken? Is their head ok? Ok, no blood…ok go.' You know? Like, 'is that how it should be?' No, but that's just how it is.

Other participants addressed the time challenges created by substitution rules in some sports. Participant #6 stated,

> With baseball…it's…it's…if you come out, you're out. [Interviewer: Does that make it more challenging to make a decision?] Yes, absolutely. Especially early

> in the game. It's…ok…and the big ones are someone's hit with a pitch…chances are, nothing's wrong, it's gonna be stiff and sore, but you also gotta worry about something else going wrong 'cause now his elbow is stiff and sore…if it happens to be his throwing arm. Uh…yeah, that…that…that makes it tough…it's a lot easier if you can pull somebody out for a couple of plays or five minutes and take a look at him um…and then get him back in there. Then it's easy.

Participant #9 explained,

> With soccer, when you bring them off the coach has to decide whether or not to sub, and so those situations happen more frequently and it's not as dramatic as that, but…there's the coach going, '[AT name], I need to know what to do.' And I'm like, 'I've had the athlete for like 10 seconds!' …With the orthopedic stuff, I think there is more of that and…it has to do with rules, you know…and the coach is going, 'what do I do? What do I do?' You know, if it's blood and it's something I can deal with fast, I will tell him, 'I just need to take care of this fast and he's back on.' 'Ok, ok, just let me know as soon as he's ready!' And so you still feel that pressure…it's a time pressure. I don't really feel like it's the coach going, 'get him back in dang it,' you know, it's more, 'tell me what to do.' To me, there's a big difference there. You know, 'how much time are you going to need, 'cause I need to decide if I'm going to play a man down. Is it going to be two minutes or is it going to be ten?' So, I think there's those kinds of influences.

Participants also acknowledged that in the heat of competition, time urgency influences the return-to-play decision process. Participant #2 described,

> sometimes during games too. You know if you have someone who had the injury that maybe wasn't as traumatic and comes off the field and you know, the coach wants them back and they want back, and so um…there are times that…obviously the big things, you're not gonna miss those and you're gonna catch those, but there are times when I don't think you get to do as thorough of an evaluation as I would like and sometimes someone might get returned a little bit earlier and um…that usually sets them up for being back after the game and missing more time because…because it was so rushed.

Another participant (#12) noted that time urgency can result from patient load issues. She stated,

> You know, there are times where…there…you're dealing with so many people, your head's just spinning. Um…and you know, even…even in some game situations where you have…you know, there are some games where you just have so many different injuries where it gets to be like a triage-type of situation and some things might get missed that way.

Similar to the hyper-vigilance coping strategy employed by general practice physicians (DiCaccavo & Reid, 1995), participants in this study indicated that they resorted to hypervigilance (i.e., making hasty or impulsive decisions based on a quick survey) when time pressures prevented them from conducting the type of thorough examinations they would have preferred prior to making return-to-play decisions.

Competitive level. Participants noted that the competitive level at which they worked impacted the amount of pressure they encountered when making return-to-play

decisions. Fifth order sub-themes of business-like mentality and emphasis on winning emerged from participant responses. Participant #5 stated,

> As far as level of competition, I've worked at various levels so I've gotten the benefit of several levels so…I…um…like at the BCS level, athletic trainers may feel more of a pressure to get that kid back. Um…because it's a business, whereas,…not belittling [Division III school], at a DIII school that pressure may not be there. The wins and losses and people's careers may still come into play, but it's not as high profile, it's not as big of a business factor. Um…and then DI-AA, the sport um…I think vary as to whether or not the pressure was there and the outside components, but I think it came down to the business factor. This team brings in revenue, this team does not. So if you have your starting quarterback out versus your second string cross-country kid, it's not gonna hold as much pressure as that quarterback because that quarterback's gonna make the school money…sells tickets…keeps people's jobs. So I think that…is it right? No. But I think that the level of business sometimes dictates the level of pressure.

Participant #8 noted that the approach to return-to-play changes as the competitive level changes,

> Well, when you look at the professional level, you've got to think of it as more of a business….I think, versus when you're in college. You know, the…the chips are a little bit higher here at the professional level, so there's…there's definitely gonna be a different approach than at the college level.

Participant #6 explained why that approach is different,

> I mean, winning is…college, yes winning is important…sometimes you want to protect some players, but you're also playing for the fun of the game, and minor leagues winning is important, it's not everything developing players is everything. Major leagues, winning is everything. Doesn't matter what else…nothing else matters. Um…just like NFL, NBA, NHL…it's winning. If you don't win…you're not around very long. And that's where a lot of it [return-to-play pressure] comes in.

Participant #12 described the difference as

> So that's one thing that…working in the lower levels I enjoy is that my focus can be on taking care of them [athletes] and making sure that when they are forty, they can play with their kids, not…just doing whatever it takes to get them out on the field. So, I think that's one thing that I think should be important and think should be emphasized in everything. Do I think that will ever happen at the professional levels? Probably not [laughs]… but it's…that's how I think it should be in a perfect world. [laughs]

Participant #5 explained how the emphasis on winning impacts athletic trainers indirectly through the influence of coaches.

> I have seen in the past um…that the wins and loss for coaches becomes more important than the well-being of the kid. And so it's…it skews their….like…boundaries almost…to pressuring that kid to play. And I think coaches hold a very important role for most athletes…uh because they decide who is on the field or on the court, and so…I think if you were to ask an athlete whose opinion is more valuable, they'll always say the coach. And so if you have a

> coach that holds that power, and then is questioning you and then questioning the kid, the kid then is questioning you as well. So I think it may change or…I don't know if it would change necessarily how I would deal with it, but you feel that pressure so you might almost question yourself.

In summary, participant responses indicate that at the higher competitive levels, sport becomes more of a business with the need to win and make money potentially trumping the health of athletes. Mathias (2004) spoke of the tension between the demands of health and the demands of sport, and participant responses indicate this tension is apparent at the higher competitive levels when sport is viewed as more of a business venture. Participant responses suggest that at the lower competitive levels it is easier to keep the goals of health ahead of the goals of winning.

Financial conflict of interest. Participant responses supported the inclusion of conflict of interest, particularly financial, as a third-order sub-theme of external decision modifiers encountered by athletic trainers during return-to-play decision-making. Fourth order sub-themes of bonuses/incentives and athletes' financial state further defined the conflicts of interest participants experienced.

Bonuses or incentives. Participants had varying experiences with personal bonuses and financial incentives. Participant #9 stated, "We don't get bonuses…there's no monetary incentive at all in my setting. That's just how I like it." And participant #7 explained,

> I don't get paid based on the performance of the team or…anything like that…or at least of our minor-leaguers or anything like that. I get paid based on doing a

> quality job and…and looking out for the health of the organization as well as the athletes.

However, others acknowledged financial incentives were present in some settings and could influence return-to-play decisions. Participant #4 described,

> I mean I know right now of a BCS school where the athletic director, who is actually extremely supportive of their sports medicine program, walked into 'em and had a staff meeting and said, 'your raises will be dictated by the winning or the losing of the football program.'...for the athletic training staff….yeah…so…you know, when your livelihood is based on whether somebody should return to play, that's…probably not…well, there could be compromises that happen there that probably might not be in the best interests of the athlete.

Participant #1 described her experiences in professional sports,

> Some of the teams, you know when you uhhh…make the playoff[s], all the athletes get how much money and it doesn't matter if [they're a] starter or back-up, they get same money, and some of the athletic trainers are part of the contract. Like [the] head athletic trainer get[s] the same amount of bonus as players or half….or the assistant gets half or quarter….uh…there is something of that structure written in the contract.

She goes on to state,

> We always tease about it you know, like 'we gonna win the championship this year' and then my head trainer was like 'oh, yeah we need to go to [the finals] so we can add [an] addition on my house' or we all joke about it, but I don't think

> anyone was ever serious about….we have to win…..we have to get the star athletes back on the field so I can get more money. I don't [think] that was on anybody's mind. [laughs]

Athletes' financial state. In addition to personal financial concerns, participants indicated that athletic trainers' concerns over the financial stability of their athletes potentially influenced return-to-play decision-making. More specifically, fifth order sub-themes of lost scholarship or opportunity, lost salary, and no insurance/retirement typified financial concerns that affected participants. Participant #4 stated,

> At the professional level, and to a certain extent at the division I level…you know, there's…I worked with kids in division I basketball that…had no chance of getting a degree. And if they didn't play…make some money playing ball, they were gonna end up in a very poor situation. And many…I shouldn't say many, some did, others made money and…and have done well…but yeah, it definitely has an influence [on return to play decisions], and anybody tells you different is lying.

Participant #11 presented the following experience that exemplifies this occurrence,

> [It was] the final match and in this tournament the winner in each weight bracket gets a contract…a 12-month contract uh…which includes money, also includes…basically endorsements by the governing body, [national sport team], and represents the US internationally and nationally at tournaments with the potential for endorsements and this was…this was definitely a big deal for them, and I found out after the fact that…that the winner of this tournament sometimes

> with the contract could make or break careers depending on whether you get it or don't get it.

He went on to explain,

> the kid that nobody has heard of… goes up two points with like…a…a minute to go, and the…the kid who was favored um…with four seconds left gets a kick to the head which scores three points and so he goes up one point with four seconds left. And it was a flying kick and when he lands, he hits his head on the mat, and the…the three medical staff run out there to look at the kid, and… the ultimate question is does he return to play or not? And they…in that situation, the medical staff has final say on whether he can participate or not. And so, the kid was allowed to continue and he was able to run away for the final four seconds and he ends up winning by one point and gets the contract and everything. Come to find out after the fact that he had a concussion, the staff knew he had a concussion, um…and allowed him to…to return to participation. Um…also find out…just kind of observed as they were evaluating him after the fight. Initially he doesn't know if he won or not, um…then he doesn't remember what happened or how he scored, um…and…and then he has a number of other things that come in and out of memory over the next few minutes of the evaluation… Everybody knew the situation that…that there was a uh…a financial award to the winner, and if that kid isn't allowed to continue, even if he's up with four seconds left, he's disqualified and the other kid gets the contract and…and represents [the national team] for twelve months… I mean it's easy to say now, but based on…based on what was presented and what I was told about my role as a medical provider, if an

> athlete is concussed an athlete is concussed and it should be black and white and that athlete should have been disqualified…regardless of time and place. But like I said, it's easy to say now.

Participant #3 further described the financial challenges athletic trainers consider in some sports when athletes' chances to make a living could be impacted,

> You know, there's no retirement plan in rodeo. There's no um…disability. There's no…if they don't ride, they don't make any money and they just spent all this money to get to this rodeo and they need the chance to make some money. So it's…it's very odd and sometimes it's hard because you know I'm like, 'I know he should not be going' you know, 'he barely even knows his middle name' you know and it's just…it's really difficult.

Participant #6 reiterated some of these concerns for athletes' careers,

> there's also the other aspects of missing time and…you know, at our level [professional] worrying about your career…you know, you get hurt…you know, you miss time because you're hurt and you could lose your job, and then…and then that, you know…that could lead to, 'well, now I'm put on the back burner with this organization, maybe I'm not where I was, I've got the 'he gets hurt a lot' tag on me' and um…and some people…it can…it can derail your career not just the season.

Other participants commented how financial concerns about scholarships or lost opportunities influenced the amount of pressure they encountered from others. Participant #10 explained,

> I think some of the parents worry about scholarship money, is this going to be taken away? Which is…understandably so, college is expensive. And so when you're dealing with your kids not getting a full ride or getting some money, they're worried that the coach is going to see that they're not producing so…they're worried that, 'we're gonna have to foot the bill.' So, I wonder if that's not sometimes in their…in their thoughts.

Another participant (#5) stated, "I felt pressure from her and her family because I was holding her back and limiting her as far as participation was going and they were worried she was going to decrease her spot or chances on the tennis team."

Similar to the direct and indirect influences situational pressures had on participants' experiences in making return-to-play decisions, financial conflict of interest had both direct and indirect influences. Participants indicated concerns that their own and their athletes' financial situations potentially influenced return-to-play decision-making (indicated by the solid line in Figure 7). However, financial concerns also impa cted the amount of influence external people (e.g., parents, athletes, agents, administration) exerted on participants' during the return-to-play decision-making process (indicated by the dashed line in Figure 7).

Participants' encounters with offers of financial bonuses or incentives based on team performance were consistent with experiences of other athletic trainers and sports medicine physicians (Anderson, 2009; Malcolm, 2006; Shrier et al., 2010). Similar to Swisher et al. (2009) participants' viewed these financial gains as potential sources of conflict of interest regarding return-to-play decisions. Furthermore, participants'

concerns over the financial consequences their return-to-play decisions may have on their athletes were similar to those expressed by team physicians (Johnson, 2004a).

Anxieties. Figure 8 outlines the internal decision modifier variables encountered by participants. Conscious or subconscious anxieties emerged as a third order sub-theme of internal decision modifiers in their return-to-play decision-making. Creighton et al.'s (2010) fear of litigation in the original model was modified by the use of anxiety to replace fear. Anxiety has been suggested as more appropriate when referring to situations involving anticipation or concern over what might happen, whereas fear is more appropriate in reference to definite, stimulus-specific danger (Hackfort & Schwenkmezger, 1993; Walker, Thatcher & Lavallee, 2010). Participant responses seem more reflective of anxiety versus fear. Furthermore, Creighton et al.'s fear of litigation was expanded to include two additional fourth order sub-themes that emerged from the data of job security and reputation preservation.

Job security. Participant responses indicated that they experienced concerns over their own job security as well as that of others. Several participants explained that differences of opinion regarding return-to-play decisions can threaten athletic trainers' job security. Participant #3 described the following concern,

> if something did go wrong and my boss is here telling me to do something that I don't agree with and he's not even certified, what the heck am I going to do at that point? Do I cave to my boss so I don't get canned, or do I do what I think is right and then lose my job? What if those things don't add up?' So that was, you know, a hard thing for me to kind of decide.

Similarly, another participant (#11) described a situation where an athletic trainer's return-to-play decision-making contributed to the loss of his job:

> at [NCAA Division I school] a couple years ago, the…I think it was the head athletic trainer was fired because of outcomes and uh…then was threatened with a lawsuit, and then there was a countersuit for wrongful termination, and then…I know legal counsel was…was consulted by both sides on that one to look at um…the approach of the athletic trainer, timelines, uh…whether they were too aggressive, too conservative, uh…and my understanding was that it was kind of dropped from the…from the school's standpoint of trying to pursue further action um…and based on the contract, it wasn't…it wasn't a wrongful termination, it was choosing not to renew the contract, so how it started one way is not how it ended up, but that was a situation where um…coaching staff was unhappy about how things were being handled medically.

Participant #11 later indicated that issues of concern over job security may be setting specific, "You know, I don't ever feel that…I've never felt that my um…my decisions affected my job security, but I've seen it happen elsewhere." Participant #9 also indicated that concerns over job security may be setting-dependent,

> I don't feel that my job would ever be on the line for not returning an athlete quickly enough. You know, um…I don't think we would ever get fired for that, either one of us. Um…I think the only way my job would be in jeopardy is if I unsafely returned an athlete. Um…that…that would be my greater concern. So um…you do everything you can to prevent that and…I don't…I have…I have

> no…in my setting, I have no reason to believe that, 'oh, she's not getting the athletes back fast enough…we gotta think about going in a different direction.'

Participant #1 explained how the compatibility of athletic trainers' decision-making with coaches' expectations may contribute to job security concerns, especially at the professional level:

> I think our job security is still works more you know…coaches change and then…uh…the new coach bringing in everything he wants. I think those are the most unfair…um job turnover…uh for the professional athletic trainers. Also, I have to say that I can't…I can't think of an example…or… I think that's fine maybe head coaches want to bring in their own athletic trainers who they know they are on the same page, or they are more aggressive the way they want or less aggressive the way they like to handle [injuries]. I think that's maybe why they want to bring their own people wherever they go.

Participant #6 encountered similar philosophies in professional baseball,

> at the major league level, the manager has a lot more power um…than at the minor league level. You know if he doesn't like your…if he doesn't like the athletic trainer…maybe he's worked with him in the past and he doesn't like him…there's a chance that he [the athletic trainer] might not be coming back.

Participant #4 also explained that athletic trainers can be plagued with concerns over how their medical decisions impact the job security of the coaches with whom they work.

> You know, when their [coaches'] jobs are on the line and…and…and especially at our level, where you get into a pretty close relationship with these coaches and

> you're going, 'holy Christ, they're a great person and they're not winning for whatever reasons' but you're trying to help them as best you can, those are…those are pressures that are out there.

Participants' experiences with return-to-play decision-making potentially impacting their job security are consistent with Wolverton's (2013) report that more than a dozen NCAA Division I athletic trainers were fired or demoted in recent years over questionable return-to-play calls. As participants indicated, at higher competitive levels job security concerns were often related to athletic trainers having differences of opinions with coaches or administration over the speed of athletes' return-to-play. These concerns are also consistent with the reports of sports team physicians (Johnson, 2004a, 2004b). At lower competitive levels participants' job security concerns were more related to unsafely returning athletes to play rather than the timeline of those returns.

In highly competitive sport, where winning is prioritized as a financial necessity, coaches are given wider latitude to build their staffs, including medical personnel (Wolverton, 2013). As reflected in the participants' experiences, athletic trainers may lose their jobs if they are in conflict with the desires of coaches or management.

Litigation. Participant #12 indicated that concerns over possible litigation regarding athletic trainers' return-to-play decisions is becoming more common,

> I would say that it's[threat of lawsuits] getting more and more…like when I went to school and even my first couple of years and at the Division II school, I didn't ever really hear that, and um…literally like in the last three or four years, people are getting more and more, 'well, I can sue you'… and yeah, getting more threatening.

Participant #9 concurred with the growing concern,

> I mean it makes you think every time you say something because it's like, oh, well not only is this affecting their life, it could potentially affect my life. And I think about that more often when parents call me and ask questions, or parents say things…I'm like, well I know I'm doing my job right, but…what…somebody can just say, 'well, you didn't do your job right' and there's a lawsuit and it's not necessarily whether you did your job wrong, but you know, you're just more cautious about, you know, crossing your t's and dotting your I's.

Of interest is that despite the increased possibility of litigation in athletics, some participants voiced minimal conscious concern over litigation in their return-to-play decision-making. Participant #11 explained, "I really…I really feel if you do your job the way you're supposed to [laughs]…that those things kind of take care of themselves. Um…I…I haven't been in a situation where legal concerns have affected my decision making," and participant #9 added, "I don't think it has anything to do with getting athletes back quicker. I think it's all about safety."

However, participant #12 described situations where the threat of litigation was a concern because athletic trainers were too conservative in their return-to-play decision-making.

> The person thought that we were being too conservative and that we were purposely, you know, holding the athlete out for whatever sick pleasure we might get out of it. And so…that was…that was that case. And other times…other instances it's been the conservative nature and not the aggressive, which is another thing I don't understand. [laughs]…because you would think it would be

> the more aggressive side, but it seems people get more upset when you're holding little Johnny out and they don't think that you should be. So…it is scary…it's very scary.

In summary, participants identified that litigation concerns are increasing in the practice of athletic training. Participants further indicated that return-to-play decisions are delicate issues as potential for litigation exists if athletic trainers are too aggressive or too conservative in their return-to-play decision-making. However, several participants noted that litigation is not a conscious thought in their return-to-play decision-making and felt that if they documented efficiently and positioned the health and safety of their athletes' as their top priority, they had nothing to worry about.

Reputation. Some participants indicated that concerns over their professional reputation influenced their return-to-play decisions. Participant #10 stated,

> I've never been personally concerned with getting sued for holding them out, I've always been more concerned with reinjury and what's that gonna put on me. And maybe it wasn't really monetary…I wasn't too worried with the monetary aspect, I think I had more issue with my credentials or my reputation. Um…because if I put my name on it and send them back out there, that reflects on how I'm doing in my treatments and my rehab, and so I didn't want…I was more concerned about what people…I wanted to make sure they felt comfortable that if they're coming to me, they're like, 'ok, she knows what she's doing, rather than ok, who's that kook in there?' And that was my big thing, I just really wanted them to respect me, so I think I would more, you know, err on that side of caution that they were

> ready, and so then I felt comfortable with my name all over my masterpiece [laughs].

Participant #2 described the following situation to illustrate how reputational concerns are important, especially to inexperienced athletic trainers,

> the first high school I was at…um…the certified, I had to call an ambulance a couple of times and maybe I was a little more conservative than I needed to be, but… in my opinion I'd rather be more conservative…it was a head/neck injury and they had neck pain and tingling in one arm and so I called an ambulance…and I was…teased and you know, 'you gonna call another…you gonna call 911again today' and they called me '911' for a while ...And so in my opinion I did the right thing, but then it was a little more difficult to have the older certified who'd been there a long time…you know, teasing me and you know just kind of overriding me and making me feel like I didn't know what I was doing and sending that message to the kids and the parents too, because it was at a game so…that was, that was tough.

Participant #5 described how return-to-play decisions can create a professional reputation,

> I mean you could…become the athletic trainer that, you know, holds people out too much or returns people to play and it's risky…um…and like we've talked about, like…it's a small community. Everybody knows somebody that knows somebody. So like I think it could potentially…But, I don't know…I don't know it would change how I do things, because I feel like people are always gonna talk and you can always do something better or different. And for me personally, it

> wouldn't necessarily dictate it…but you know, now having it brought to my attention I might think about it twice.

She later stated about her return-to-play decision-making,

> It is almost a success rate for myself and I…I'm overly competitive and…that being said, I want that kid out there and if that kid isn't out there, I'm not good enough…I'm not getting that kid back fast enough. And…so almost it's a drive for myself, and those coaches know how competitive I am and that I want that kid to be out there participating.

Participant concerns over their professional reputation are similar to those identified by sports medicine physicians (McFarland et al., 2007; Tucker, 2004). Participants' return-to-play decisions and the resultant outcomes did affect the way others viewed them. Similar to Johnson (2004a), participants had concerns that if they were too conservative, they could be tagged as incompetent or to cautious. However, it they were too aggressive, they could also be identified as incompetent or reckless. Thus, participants attempted to walk the narrow path of "proper" return-to-play decisions.

Personal factors. Participant responses identified several personal factors as a third order sub-theme of internal decision modifiers. Individual differences in age or experience, emotional attachment, personal biases, and gender emerged as fourth order sub-themes that had the potential to influence return-to-play decisions.

Age/experience. Participants indicated that newly-certified athletic trainers may have greater susceptibility to the pressures placed on them regarding return-to-play decisions. Participant #8 noted,

> I think as a new athletic trainer you're pretty timid, you know. You don't want to make the wrong decision…you don't want the coach to jump on you, you know…you want to keep everything good. And sometimes you have to make that hard decision whether it be the star player or…or not the star player. You gotta treat all of it the same. So, I think as a…as a beginning athletic trainer it's kind of tough sometimes. Because you know they need that person out there, but…can I approach the coach, or how do I approach the coach to let them know that, 'hey, this guy's not gonna be able to go.' And do I want to feel the wrath of what's gonna happen…the coach yelling at me or whatever. So…as you get older it's like, 'ok, whatever, yell at me [laughs]…have a nice day…he's still not going…you can yell, he's still not going' [laughs]…Yeah…that skin gets a little tougher as you go on in years. You have a thin skin at first, but then it gets a little tougher as you get older.

Participant #2 voiced similar experiences in his professional development,

> 'Cause I know like coming out of school in the first few years it's a little bit more intimidating when you have the parents who are very overbearing and…you have…doctors you know who are very overbearing and…um maybe not overbearing, but very, 'this is the way it's gonna be' type of thing. And I think as I've been in the profession a little bit longer, I'm starting to be more confident with myself and my skills and my communication and being able to stand up to a doctor that I never would have stood up to a doctor, if a doctor would have said something to me, even another certified would have said something to me my first

> few years out of school…um…even knowing it wasn't really what I felt, it was really hard to speak up for myself, but now I can do it much…much more easily.

Participant #9 similarly spoke of personal changes during her increasing years of professional experience,

> I recall so clearly, when I was at graduate school and you know, being in my twenties and being feisty and all, "blah, blah, blah," and I was so passionate…and I still am…but I remember my director always saying, 'when you have a few more gray hairs, it gets a lot easier.' And he was soooo right. He was so right. And you know, I was intelligent, I was good, I had good connections with athletes, I…I could frickin' tape like no other, I had a line out the door, but…it is no doubt in my mind that I've been doing this for twenty years, the blood pressure just doesn't go up like it used to. It's so much easier to…you know, really um…weigh options and rely on the experiences that I've had, and not get so…you know, passionate and uptight about things, and…and think more clearly, I think. And just having that confidence in myself to take the time to make the best decision you can whether it's right there in the moment on the field, or whether it's how can we work to effectively get this athlete to return safely. What are the channels we need to go through? What are the conversations that need to be had…and with who? And you know, definitely there's…I…I…it's definitely so much easier now that I'm getting older, for sure.

All participants indicated that increasing experience and increasing age made return-to-play decision making easier. As will be discussed later, the ability to draw on

prior knowledge was essential to buffering the potential modifying effects of various factors. Thus, the entry-level or inexperienced athletic trainer may be at greater risk to be influenced by decision-modifier variables.

Emotional attachment. Participants spoke of how degrees of emotional attachment to athletes or competition potentially influenced return-to-play decisions. Participant #1 stated,

> I see some people getting to the game sideline as an athletic trainer or as a medical staff yelling and screaming and you know, maybe they know about the sport a little bit more, almost becoming a coach. And I think that's kind of skewed their decision too. Like … so when I see those really passionate people…..umm…I respect their passion, but at the meantime I'm like, 'whoa…I hope I don't look like that' [laughs].

She went on later to say,

> I think the emotion….as a medical staff for decision-making, it's just not good. It's great as a person, but I think emotion and being…..being frustrated….uhh…thinking of athletes' feelings so well or thinking of them too much….uhh….I think that's gonna affect our decision-making skills.

Participant #9 explained how emotional ties with athletes can be both a positive and negative.

> There's a good amount of closeness, but you can't get too close. You cannot let those things influence your decisions. And I think…I think again, there's a human component that none of us can escape. And so, you know…I think…I think it could go in both ways. I think in some ways um…it makes it easier to

> deliver bad news because they know that I don't want to do that. They know that I'm aggressive by nature. They know that if I tell them, 'you're not ready and I'm not gonna clear you to play,' that…that there's a damn good reason. They don't like the news, but…I can't tell you the last time I had an athlete storm out or get pissed, or just look at me like, 'you're frickin' crazy, lady.' You know what I mean? And so I…I like to attribute that you know, to those relationships.

Participant #10 described how return-to-play decisions are best made when emotions are held in check, but that may be easier than it sounds.

> I think initially it's very difficult and then I tell myself, 'you have to take the personal aspect out of it.' You know, it's not…their life's gonna go on, it's gonna be fine if they don't make it. And so sometimes I feel like, yeah I get caught up in that, 'I wanna get them back. I wanna get them back.' And then I go, 'ok, what's really important?' You know, and so I think…I think sometimes you can kind of get wrapped up into it, but then there's that time that you just go, 'ok, it's gonna be fine and we'll make it work whatever we need to do.' So I think sometimes I have to remind myself to just take a step back and…yeah, 'it'll be just fine.' So I don't get wrapped up in it 'cause you know, just talking to the athlete, you know, you're getting all amped up with them too like, 'yeah, let's get you back. We can do this.' And then you…the clinician part of you kicks in and goes, 'what am I thinking?' like, 'come on, yeah, he's gonna be out a lot longer than I think. He wants in in two weeks, he's not gonna be ready in two weeks.' So…yeah, it's easy to get caught up in that…at least for me it was.

Similarly, participant #1 explained,

> I think we are all human and uhh…that's a good part of it, but if you are making return-to-play decisions, I think the emotion part…you know, you can listen to athletes' emotion, coaches' emotion, everybody's emotion, but when as a medical staff, we make decision[s], I think you have to be so objective…calm and collected. otherwise,….uhh…we [are] all gonna make [a] wrong decision.

Participant responses highlight the two-edged sword of emotional attachment. They indicate emotional ties are critical to their success in establishing trust and rapport with their athletes. However, similar to the experiences of sports medicine physicians (Devitt & McCarthy, 2010; Johnson, 2004a; Salomon, 2002), participants stressed the necessity to be emotionally detached when making medical judgments. Compassion was described as beneficial when delivering the return-to-play decision to stakeholders, but the decision itself must be done with clinical objectively.

Personal biases. Several participants spoke of how their own personal views and biases towards the pace of rehabilitation sometimes influenced how they handled athletes. Participant #7 noted,

> I can…um…probably because I played a lot of sports, I tend to be uh…I'm too aggressive at times, but um…I really…I really try to be mostly conservative. I know I'm too aggressive for what my coordinator likes at times with certain guys in throwing programs um…more because I tend to go off what I see visually than what I…than the protocol sometimes.

Another participant (#3) described a similar experience,

> I'm fair to moderately competitive myself and so when you get those kids who kind of put the brakes on you're like, 'are you kidding me?' You know, it's just

> hard and you find yourself, where normally I'm totally the advocate for the child you know and telling the coach, 'alright, we kinda need to..you know…sugarcoat this for them, make sure it's a good experience for their return and you know, not like put a lot of pressure on them, just let them go…' This girl, I'm like, 'I can't frickin' get this girl to decide that she wants to do this and it's crazy to me!' You know…and…[laughs]…one, I can't even believe it was coming out of my mouth, and two, you know it's just kind of like, 'this is nuts…she's fine' You know, of course how are we to say whether she's fine or not. We don't feel the ankle, maybe it really really hurt. You know, and it was just an odd…odd situation to be in.

She went on to say,

> it's funny how you know maybe my drive to have this chick compete in the cheerleading championships was more than hers, which is just strange, you know. 'Do you not see the metered on-ramps as a challenge?' [laughs]. I don't know. It's a…it's interesting to see. You know and I think that, I don't believe I would ever put a kid that's, you know, not ready um…physically…or I guess, of course that girl was not technically mentally [ready]…and I was trying to browbeat her into going.

As Roderick (1998) and Murphy and Waddington (2007) have suggested, athletic trainers as members of the sportsnet are bound by social norms, roles, expectations, and relationships that influence their behavior and actions. Participants acknowledged that their own personal beliefs regarding conformity to the sport ethic created a lens through which they sometimes viewed their patients' rehabilitation and return-to-play. However,

participants also noted their conscious efforts to prevent that lens from impacting their clinical decision-making.

Gender. While it was previously noted that participants did not feel that their return-to-play decisions were influenced by the athletes' gender, several female participants believed that the way their return-to-play decisions were received by others was influenced by their gender. Participant #12 stated,

> we have had instances where…where I have worked with a certain coach and a male athletic trainer has worked with that coach, and definitely with the male athletic trainer they are…they don't push them to make these return to play guidelines as much, and so a lot of the times I think they think I am being too conservative because I'm a woman, or um…I'm trying to hold them back because I'm a woman.

Similarly, participant #10 explained,

> I sometimes wondered if it was more about gender. I felt…you know, when you deal with female coaches, they're used to female teams and they understand that…it was not a big deal that I was a female. With male coaches I sometimes felt…I don't know if they thought I was younger than what I was or that I…I can do my job. Um… but sometimes I felt that male coaches, or coaches that taught male teams um…they would kind of be wondering you know, 'does she know what she's doing?' Or they would…what would really irritate me is if they would go behind my back and go to my head athletic trainer [who was male].

Interestingly, participant #1 noted that athletic trainers' gender could have both a positive and negative impact on how return-to-play decisions are received.

> I think I don't notice [it] much, but I know that some uh…athletes or coaches…uh…it's not natural for them to take order[s] from female[s], or some people it doesn't matter or some people might be even nicer or more accepting of direction from females…so I think it varies, so it goes both ways. I think there's some disadvantage but there is some advantage.

Of further interest, there were no male participants who felt athletic trainers' gender affected return-to-play decision-making or the way those decisions were received by others.

In summary, similar to experience of sports medicine physicians (McFarland et al., 2007), participants in this study identified a number of external and internal variables that potentially influenced their return-to-play decisions. The results suggest that step 3 of Creighton et al.'s (2010) decision-based RTP model be expanded to include these variables. Figures 7 and 8 outline the expanded list of decision modifier variables.

Overall, Creighton et al.'s (2010) decision-based RTP model provides a framework outlining athletic trainers' experiences in making return-to-play decisions. The three-step process is supported by the participant responses in this study; however, the specifics of each step require modification and/or expansion to fully capture athletic trainers' experiences.

Circumstances and Extent of Decision Modifier Variable Influence

The second purpose of the study was to determine to what extent and under what circumstances decision-modifier variables influence athletic trainers' return-to-play decisions. Based on the above results, it is apparent that certain external decision modifier variables alone or in combination invoke a greater amount of pressure on return-

to-play decisions made by athletic trainers. It is also apparent from the results that certain internal decision modifier variables made it more challenging for participants to resist the potential decision-modifying effects of these pressures. Figure 9 illustrates what can best be described as a 'perfect storm' scenario incorporating these situational and personal variables.

Situational factors identified by participants that increased the extent of pressure they personally experienced or experienced from external people included financial issues, player importance, time urgency, philosophical issues where winning trumps health, and the degree of familiarity with athletic trainers. Financial issues such as bonuses or incentives promised to athletic trainers based on team performance; athletes' potential loss of income, scholarship, or opportunity if not allowed to participate; and a business-like mentality in sport organizations where athletes are treated as assets rather than people were previously shown in the results to influence participants' return-to-play decision-making. Participants indicated that small squads that lacked roster depth and injured 'starters' versus bench players made players seem more important and therefore created greater pressure on return-to-play decisions. Furthermore, substitution rules that prevent athletes from returning to contests following removal for injury evaluation, limited amounts of time to treat athletes, and injuries that occurred in the heat of competition created a sense of time urgency that increased participants' perceived pressure on their return-to-play decisions. The win-at-all-costs mentality identified in higher competitive levels, in games of greater perceived importance, or adopted by stakeholders often created greater pressure on return-to-play decisions. Finally, unfamiliarity with athletic trainers and their role in the return-to-play decision-making

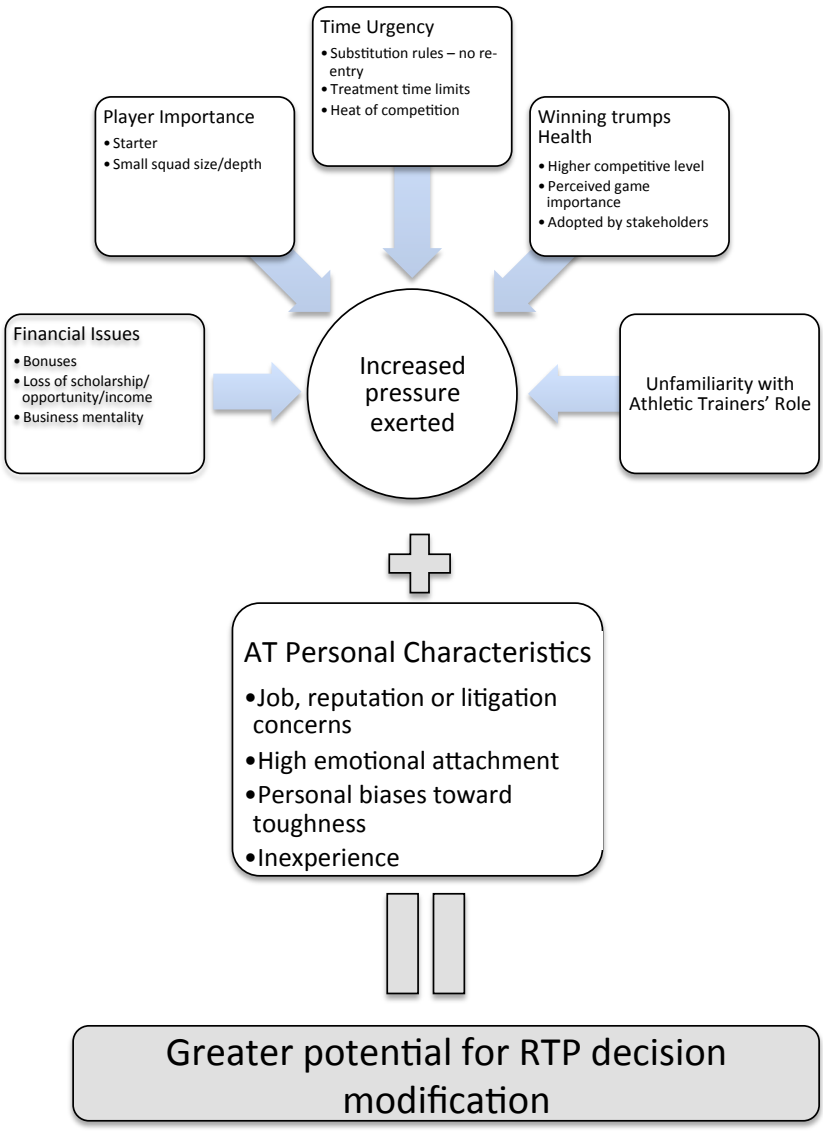

Figure 9. 'Perfect storm' scenario for potential return-to-play decision modification by athletic trainers.

process was also identified by participants as a factor that increased the amount of pressure they encountered in making return-to-play decisions.

As indicated earlier in the results, when personal factors are present, such as when athletic trainers are inexperienced; are highly attached emotionally to the athletes or team; are concerned about losing their job, being sued, or damaging their professional reputation; or have strong personal biases regarding the pace of rehabilitation and return-to-play, participants indicated it was more challenging to resist pressures to modify return-to-play decisions.

Thus, similar to a "perfect storm" scenario where environmental factors summate to create a stronger effect, when greater situational and/or personal variables are present, decision modification is more probable. More specifically, when an increasing number of situational factors combine with a personal profile of athletic trainers described above, return-to-play decisions may be compromised. For example, when the coach and management of a professional team, who share the mentality that winning is the only thing, encounter injury to their star athlete in the fourth quarter of closely-contested championship game, they will be inclined to put strong pressure on the athletic trainer to return the athlete to competition. If the athletic trainer is young and inexperienced, caught up in the excitement of potentially winning a championship, believes athletes should give their all for the good of the team, and fears if he contradicts the coach he will not have a job next year, the potential that a truly objective return-to-play decision will be made is at risk. Thus, the various situational and personal variables present in any situation impact the degree to which return-to-play decisions are influenced. This

interactionist view begins to address Matheson et al.'s (2011) call to clarify the nature and extent of non-medical influences and to explain the return-to-play decision-making variability found among sports medicine clinicians (Schultz et al., 2013).

Strategies for Dealing with Return-to-Play Decision-Making Pressures

The first portion of the third purpose of the study was to identify strategies athletic trainers used to deal with decision-modifier variables in return-to-play decisions. In light of the fact that athletic trainers are most often faced with one or more of the 'perfect storm' ingredients listed above, participants were asked how they coped with return-to-play pressures. Their responses identified several key themes and sub-themes regarding strategies they employed to cope with influential pressures in return-to-play decision-making (see Figure 10). Second-order sub-themes that emerged as key to coping were developing guiding principles, educating stakeholders, establishing relationships with stakeholders, creating proper working environment, and fostering confidence. Each of these themes and their relevant sub-themes are expanded below.

Developing guiding principles. Participants indicated that the development of a set of guiding principles to lead return-to-play decision-making was critical in coping with influential pressures exerted by situations and other people. Third order sub-themes that emerged included establishing protocols, making evidence-based decisions, using objective benchmarks, applying principles consistently, and considering the long-term effects of decisions.

Establishing protocols. Participants spoke to the importance of establishing return-to-play protocols. Participant #4 stated,

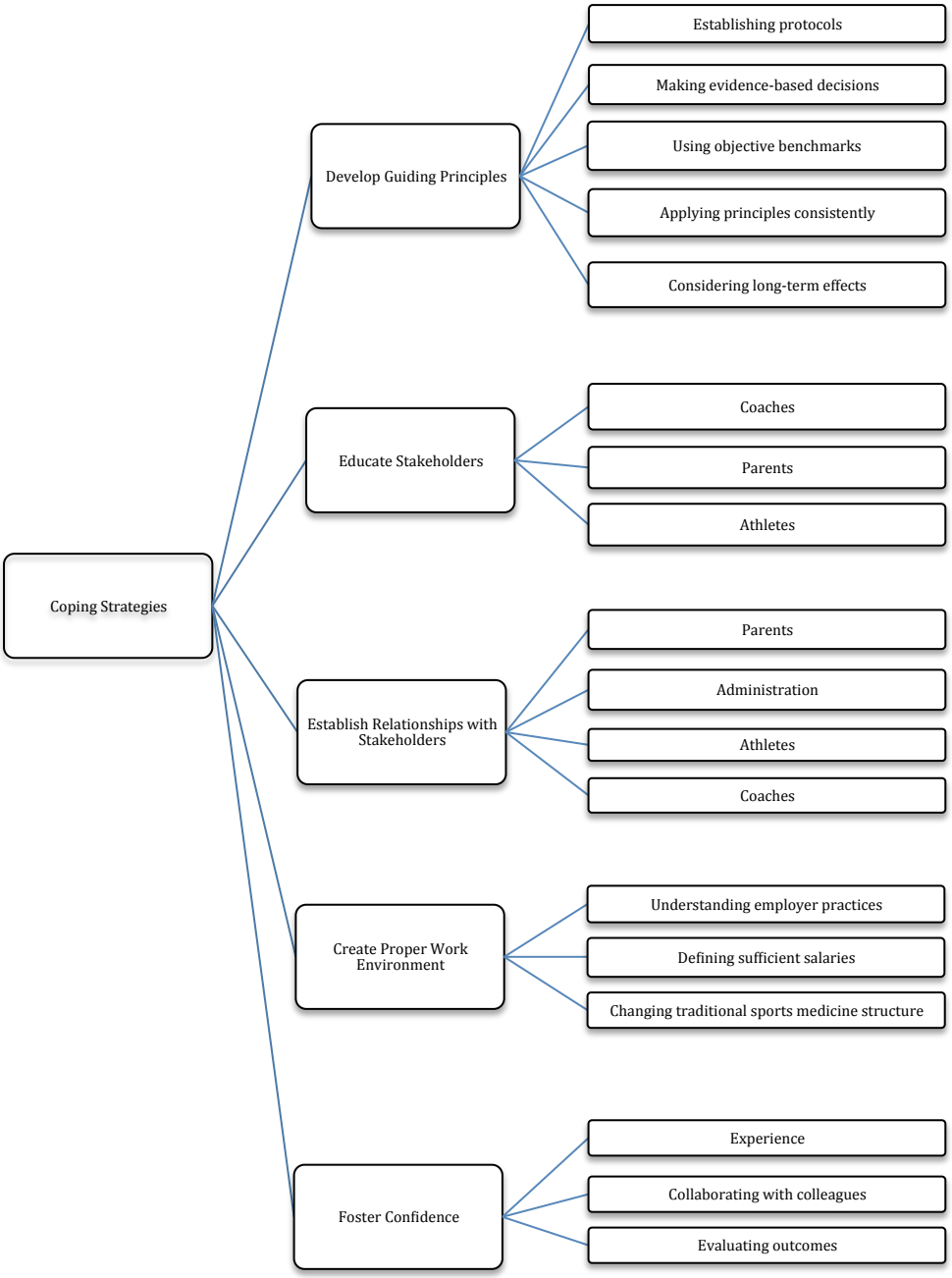

Figure 10. Athletic trainers' strategies for dealing with pressures of decision-modifier variables in making return-to-play decisions.

> As an athletic trainer, you have to have a set of guiding principles that you're willing to go to the mat for. And, you know, that's for the health care of your student-athletes. And if you can keep that in your mind, then I think you can work through these other things.

Similarly, participant #9 explained,

> I guess there are certain situations that it's really important to have protocols in place…to guide us. Um…whether it is your concussion management protocol, whether it is…or um…post-op anything…protocol um…I think that goes a long way in…education first of all. You know, these are the hoops we jump through, these are the things we need to do and the order that we need to do them. And that there's a rationale for that physiologically, but then I also think that it goes a long way in dealing with everyone…when you're dealing with coaches, when you're dealing with the athletes themselves, when you have something to point to.

Participant #4 further emphasized the need to establish these protocols as a priority so they are available when tough choices need to be made.

> One of the things I decided when I first came here, agreed to with the administration is this is how we're gonna handle difficult situations. And so that's always been a guiding light, and I've got that to fall back on if there's other pressures, you know you're in the third quarter winning the championship game or whatever, we can always go back to what I call 'lines in the sand.'

Consistent with ethical (NATA, 2005) and professional practice (BOC, 2006) guidelines as well as recommendations for sport team physicians (Herring et al., 2013), participants emphasized the need to have their guiding principles and return-to-play protocols

centered on the primacy of the patient. Standardization of general return-to-play processes has been recommended as best practices for sport team physicians (Matheson et al., 2011; Shrier et al., 2010) and athletic trainers (Courson et al., 2013).

Making evidence-based decisions. Participants emphasized the need to establish protocols and make decisions based on research evidence. Participant #1 stated,

> I always like to make a decision where I am comfortable so I tend to go to the research or the most current study or [what] most experts said now, you know, I need to know that background first…. And I would present the information I have and what I think. So I guess that's the way to impress people.

Similarly, participant #9 explained,

> if you can get in front of it a little bit, rather than not informing the coaches of what we're doing, you know, look, this is what…you know when the NCAA did all their stuff, so did we. And we had a meeting about it and said, 'look this is what we're doing, this is what the NCAA is doing therefore it is the standard of care, ok? So we are implementing everything.'

Evidence-based practice is required in athletic training education (NATA, 2011), thus it makes sense to base return-to-play decisions on research whenever possible.

Using objective benchmarks. Participant responses revealed that using objective benchmarks in determining athletes' readiness to return-to-play was effective in coping with potential pressures to alter return-to-play decisions. Participant #10 described,

> I always made sure that if I was letting someone go back to play, I could explain why they were going back to play. I could give them…ok, make sure… you know, this is their measurements, if it was an ACL, this is their broad jump, this is

> their single leg jump in three jumps, I mean I had data to back up why I would let them go, and so I think I felt more comfortable for me, but also if someone ever questioned, whether it's a coach, a parent, another athletic trainer um…, or students, you know, and said, 'well why is she ready?' I could say well, this is what I did and then this is why I made that decision.

Another participant (#3) stated,

> You know, and to have some good objective data to say you know, 'you don't have full hyperextension so when you're running it's going to feel different from the other side, it's going to cause this whole cascade of other things to happen', and knowing that stuff and feeling confident that you know that stuff I think can really help you out.

Participant #11 described how objective information helps justify a difficult decision,

> You fall back on your criteria and you just kind of try and rehash to yourself that you are justified in the decisions that you made, you did make an objective decision and it is in the best interest of…of the patient, and it…sometimes it just sucks [laughs]…I mean I don't know how else to say it.

As discussed previously, participants acknowledged the importance of removing emotionality from the return-to-play decision-making process. Objective benchmarks for return-to-play remove some degree of clinical uncertainty and thereby decrease the likelihood that socio-cultural factors influence the return-to-play decision-making process (Malcolm, 2009).

Applying principles consistently. Participant #3 reflected on the importance of applying return-to-play protocols consistently across all athletes. She stated,

> You want to make sure you make things clear and that things are based on, you know, criteria that are the same for everybody. You know, so there's really no kind of wiggle room for, you know, to leave yourself open.

She later added, "our protocols and everything are the same, whether he's warming the bench or if he's a starter."

As seen in Figure 9 (perfect storm), player importance is a factor that increases the potential for decision-making influences to exist. Consistency in principle application minimizes the influence this situational variable exerts in return-to-play decision-making.

Considering the long-term effects. Participants reflected on the importance of considering long-term health consequences when establishing guiding principles and when coping with pressures to modify return-to-play decisions. Participant #8 noted,

> Overall, I think you have to look at the overall well-being of the athlete. No matter what…no matter if you're high school, college or professional. It's the well-being and looking at the afterlife of the athlete, you know. You…you want…if they do have kids or whatever, that they be able to play with those kids after they get done with their sport. So…you have to put that…you have to consider that.

He later stated, "I think the biggest thing is that when you make a decision, stay firm with it, and if they yell at you, they yell at you, but you gotta consider the athlete's health and well-being overall."

Another participant (#5) explained,

> I don't know that I ever care about my team being successful…which…don't tell my coaches [laughs]…but I think it's more that I just care about them holistically.

> And so…would they be happier if they're winning? Absolutely. But I think more in that holistic approach…like…are they gonna be able to sit through class if they have this chronic back pain and they're always in pain in their…activities of daily living, but they can play. It's like…ehhh…I think I'm gonna push you more towards being a well-rounded healthier person versus being an 'athlete.'

Participants explained that assisting athletes and others to gain some perspective regarding long-term versus short-term goals was important. Participant #2 stated,

> Personally I just bring it back to their health a lot of times. You know, granted it's high school sports. As much as we think high school sports are so important right now, they're really not. And you know, there have been instances where kids have been so severely injured in high school that it really affects them later on in life, whether it's their knee or their shoulder or their ankle…just kind of trying to bring it back to reality and there's a little bit more beyond high school sports.

Similarly, participant #5 explained,

> Most of the time I've found that if you put the details right in front of them and remind them that you're an athlete for this amount of time typically and that outside of that you want to be able to walk and play with your kids in the future, and so I think a lot of times if you give them the facts, they stop pressuring you as much.

In summary, participants noted that objective evidence-based protocols for return-to-play that are applied consistently across all athletes were very beneficial in coping with return-to-play decision-making pressures. Consistent with the Code of Ethics

(NATA, 2005) and the Standards for Professional Practice (BOC, 2006), participants noted that the long-term health of athletes must be considered first in making return-to-play decisions, and consistent with Mathias (2004), athletes' health must be prioritized over the short-term desire to play immediately.

Educating stakeholders. Participant responses indicated educating stakeholders, particularly coaches, parents and athletes, regarding the return-to-play process was another successful strategy for coping with pressures in return-to-play decision-making. Participant #2 stated,

> We do trainings with them [coaches] in the fall, and we have athletic department meetings throughout the year. And so we always talk and this and that and I think we've…through the years we've gained their respect and their understanding that, 'hey, this is what we're doing, regardless of whether you like it…this is what's gonna happen' and…there haven't been too many instances where they wanna try and get somebody back, you know, too early…there have been instance where they've said, 'yeah, you know, we don't need that person and you know it's ok if they don't come back'…so that makes it a little easier. Um…but I can't really think of many instances where we've had coaches say, 'no, they have to come back. They have to play.' They pretty much say that if we say, 'no' that's the way it's gonna be. And, you know, even I think of Friday night football games, and they're, you know, important games and somebody gets a headache…you know, hit in the head and it's, 'I have a headache' and everything else is ok, but they just have a headache and you know, 'no, they're not going back…they have a headache, they're not gonna go back' and the coach is, 'ahhh…' You know

> they're disappointed, they're upset about it, but they realize
>
> that…that's…they're gonna stay out.

Participant #3 described the value of having coaches come in and see the athletic training room environment first-hand so they gain a better appreciation of the challenges athletic trainers face in making return-to-play decisions. She stated,

> for them [coaches] to see what goes on in the training room, he's like, 'my god, I didn't realize…' and I'm like, 'think about that next time when you're looking at your watch and there's 50 kids in there and you want me to skip all the cheerleaders and the soccer girls, you know, and get all your kids out to practice.' It's just kind of funny. I think it's good for them to see that.

She later described that after one such exercise with a coach, his reaction was to say, "'[Athletic trainer's name], I just want to tell you that your job sucks!' [laughs]."

Participant #6 provided an example of how athletic trainers sometimes have to be a little creative in their education methods with coaches. He explained,

> like one of my managers um…you…you couldn't tell him anything. Um…but I found out early on working with him…you just gotta lead him in the right direction and if he makes the decision…the decision that you were gonna tell him, then it's a perfect idea. So, it's…you know with him, it was…we got along, he was mean and grumpy and…you know, wouldn't listen to anybody and was right all the time, so you lead him in this direction, and you know…kind of…explain out a little bit more to him which…I don't know if they just tune you out at that point and start listening a little bit more um…you lead him in the right direction and he says, 'well, maybe we should do this' and 'oh yeah, that's a great idea.' I

> mean, I remember doing that multiple times with him. Oh, that's…that's…that sounds good, that's…that's what we should do. Then you don't have to talk him into anything and…you know, he's not mad 'cause that's what he wants to do anyways.

Participant #10 described the importance of also educating parents on rehabilitation and the return-to-play process to decrease the amount of pressure they place on athletic trainers. She stated,

> I think a lot of the times it's just educating the parents to say, 'this is what I'm going to be doing, this is my plan. And if we have to deviate anyway from that plan, I will let you know or I will let your child know. And then we will make sure that we are getting them back.' But I never give athletes or parents timelines of when they will be back, 'cause that would…I would be wrong almost every single time. You never know how they're going to respond with anything.

Most participants spoke to the importance of educating athletes about their injuries and the progression for rehabilitation in order to decrease the pressures athletes exert to return-to-play before they are ready. Participant #10 explained,

> I think when they're [athletes] dealing with the injury, they want to be back sooner rather than later, and if…if it's…especially if that athlete has never been injured before, that's a new experience. So just trying to explain to them and educate them about their injury and how long it takes for your body to heal and those structures to heal, and what kinds of stresses we want to stay away from so that we're not gonna…not gonna hinder their healing process.

Another participant (#7) stated,

> We talk about what's going on, we know the plan, and this is what…we need to see this before we go a step further. And there's no timeline, you have to reach this point. When we get to that point, however long it takes, or however slow it takes, or however fast it goes, we'll get there and then we'll progress to the next thing. But until that happens, you won't progress to the next one." So I try to make everything very step-by-step and um…kind of goal-oriented, what can we do to try and achieve that, and once we get that we can progress to the next thing.

Participant #2 described another technique for educating athletes about their injuries and healing,

> The more competitive athlete…and just like knowing them personally, being around them…um…I'm able to tell more of 'yeah, this is more of a serious injury and we need to take a little more time' and convey that to them. Um…like you know 'you're…you're a playmaker for us and we need you to make the plays, but if you don't come back all the way, you're not gonna be making those plays and you can get injured more' and then you're wiping that out more. So kind of…um…I don't really want to say mind-games, but playing the psychological effect with them and like, 'you are an asset to the team. You're not an asset right now. Let somebody else come in and, you know, play your role right now. Be the leader off the field. Get healed so you can return to play the way you should and the way you want to. Because you're competitive and you're not gonna want to come back at 60% or 50%, you know, wait until you're back where you should be.'

Several participants discussed the value of using functional testing outcomes to help educate the athletes about their true health status during rehabilitation. Participant #4 stated,

> I…I…sometimes, and this is not a compass, try to find a situation that you can put them in, that will not risk their health, but will prove to them that they can't do what it is they want to do because of that injury. And so I've got those little tricks that I've developed over the years [laughs]…and I'm pretty good at using them. And…and…so…the truth of the matter is if you can do that, most of the times I don't have to make the decisions. The athletes make the decisions for themselves. The moment I can show them, and I can validate why I'm saying what I'm saying, they get it.

Similarly, participant #11 explained,

> I try and be as black-and-white as possible about what…what they have to be able to do in order to go back and play. Before they even try and do it, they know what I'm going to make them do, and…and sometimes they'll play the BS card on themselves right away and say, "oh, I can't do that." And not even try. But I think for me I…I'm just trying to build that relationship to the point that if you can't go, this is why you can't go, and usually it's because you have the potential to make things worse.

In summary, participants noted that educated stakeholders tended to be more accepting of the return-to-play decisions made by athletic trainers. Providing rationale for the pace of rehabilitation or the need to decrease activity created a better understanding of the limits and increased compliance with the return-to-play plan.

Establish relationships with stakeholders. In addition to educating stakeholders, participant responses indicated that building positive relationships with stakeholders was also an effective strategy for coping with pressures regarding return-to-play decisions. In particular, participants noted the importance of establishing relationships with parents, administrators, athletes and coaches.

With parents and administrators. Participants highlighted the value of fostering relationships with parents and administrators, particularly in the high school setting, as one means of decreasing parental pressure on the return-to-play decision-making process. Participant #2 stated,

> I feel like I've built some pretty good relationships. Um…the school I work at feeds into the high school where I'm a certified so then it built relationships…building up through those years…and so I think a lot of those parents will see it more as, 'oh, ok well he's saying this so it must, you know, I trust him, I've known him for years. He's been our kid's teacher for years, and I think that helps.

Similarly, participant #3 noted,

> I think, being at the high school where I have coaches that are supportive and parents that have been around for a long time and have multiple kids coming through, and an athletic director and a principle who's like, 'we understand what you're going through and we're going to support you.' I think that those are things that it's hard to teach and when you're picking students and you know, 'are they gonna be able to win over their administration so that when they need

> something, they're going to have some support?' Those things I think are important.

With athletes. Participant responses highlighted the need to foster positive relationships with athletes to strategically counter pressures to modify return-to-play decisions. Participant #3 noted,

> I think the one mistake I made when I first came in, and I was young – I was basically straight out of school, I didn't…I was all business. There was no funny jokes, there was no [AT name], and you know, kids were scared to death of me because I was like, 'no…grrrr….this is how it goes,' [laughs] and I think now it's way more enjoyable to be in the training room, and…because I'm more me and I crack silly jokes and we play little pranks, but when it comes down to business, that's really…kind of…how we are, you know, and how it needs to be, and I think kids are more respectful, they realize you're human and you're trying to do the best thing for them.

Another participant (#12) stated,

> For the most part, I think knowing them [athletes] and getting to know them well at the smaller institutions makes it easier because they know that you have good intentions, and the more that they know you, the more they know that you're not just gonna hold them out and you're not just gonna tell them "no," that you really want them to be ok.

Participant #3 explained that part of the relationship-building process involved disclosure of athletic trainers' feelings too,

> I think leveling with the kids and saying, 'listen, this breaks my heart and I know you want to do this and I would really like to see you do this, you know, but really it's just not safe for you to do so.' I think they're going to appreciate that more than just saying, 'nope, not ready,' you know and not letting them know that it's hard for you too. You know, and like telling kids…I hate telling them that they've torn their ACL, you know, it's just…it's hard because you know what that means um…so that's kind of…you know it's…it's difficult, but I think if you show them and you tell them, 'you know I know this sucks and it's going to ruin my day, you know,' I think they accept it a little bit…a little bit better and stuff like that.

With coaches. Participants highlighted the importance of establishing relationships with coaches as a coping strategy for return-to-play decision pressures. Participant #4 explained,

> In my experiences, if I'm aloof with my coaches and work strictly in a professional manner, it…it's just a lot tougher. I…I…I like to develop a rapport with them um…both professionally and personally, and so when I've got to bring them a tough decision, they understand that look, I'm on their team, I'm trying to help them out. They know that I have a job to do, and they understand that job. So I'm not necessarily a fan of keeping our relationships strictly professional.

Similarly, participant #3 noted, "you know it's easier to win over coaches when you're not saying, 'Johnny can't play' every single time you see them. And you know, 'how was fishing?' every once and awhile is nice. [laughs]"

Participant #10 explained the importance of also earning the respect of coaches,

> As an athletic trainer, you really had to earn the coaches' respect because they're gonna be coming in…you know a lot of times a coach would look at me like, 'what do you know?' like, 'I don't know anything about you.' But once you kind of proved yourself they would listen when you say, 'this is the injury, this is what we're doing' and you laid it out for them and they saw how you were able to handle that situation, then they go, 'ok, you let me know.' You know, so I felt like you had to prove yourself to each coach, whether they were a new coach or I was new as an athletic trainer coming in, um…I think you really had to show that, 'look, I know what I'm doing, and if I ever have any doubts on what I'm doing, I will refer. I'm not gonna try to do stuff that's out of my scope of practice…' but I felt that you really had to work that relationship so that they felt…the coach felt that you were doing all that you could to get them back as soon as possible. Um…but the coach also knew where you were coming from that I'm not gonna just hand them over at any time and say 'good luck, I'll see you tomorrow' [laughs]…

In summary, participants acknowledge the importance of building rapport, demonstrating empathy and thereby developing trust with the stakeholders in return-to-play situations. Wiese-Bjornstal, Gardetto, and Shaffer (1999) discuss the importance of rapport, empathy and trust as foundations for effective interactions between sports medicine professionals and their patients. Consistent with those conclusions, participants in this study acknowledge that fostering rapport, empathy, and trust with athletes, as well as their parents, administrators, and coaches, made it easier for these stakeholders to hear and accept difficult return-to-play decisions with less challenge or pressure.

Create proper work environment. Participant responses indicated that a positive work environment potentially served as a coping mechanism for countering return-to-play decision-making pressures. More specifically, sub-themes of understanding employer practices, defining sufficient salaries, and changing the traditional sports medicine structure emerged as useful strategies.

Understanding employer practices. Participants described the importance of knowing the employment practices of any potential job site prior to accepting an offer. Participant #5 hypothesized,

> [if] you may lose a job if this kid doesn't come back…like if I was in the same situation, I would hope that that job loss wouldn't matter to me. I would hope that I would still hold true to, you know, do no harm, take care of the kid, the kid's holistic well-being is in my best interests…their best interests…I would hope that I've…met the right people and influenced the right people that even if [I] lost that job because of a decision like that, because of a pressure, that it wouldn't affect me negatively. It would just mean that door is closed. I don't know that I would want to necessarily work for someone that was not gonna put that kid first. So, I think it would be one of those where I'd cut my losses if there was really a problem with that.

Another participant (#7) explained similar feelings regarding employers,

> I like to believe it's more an ethical thing…um…I believe I would not want to work for someone that would put me in a bind as to putting a guy out in harm's way um…that would definitely put him in harm's way. Um…obviously they're taking some inherent risk playing when they're sore, tired, fatigued, but um…that

> comes with the nature of the job, but um…I wouldn't want to work for that company anyways. And so um…I'm lucky the company I work for won't put me in that situation.

Participant #3 described the importance of employer support in selecting and remaining at an employment site,

> So I think that's uh…important and then making sure you don't take a job where you're not gonna have the support that you need. You know, where an athletic director just says, 'whatever you say goes. If a parent is angry, that's just too bad. You know, as long as you were nice and polite and told them what they needed to do, we don't care if they want to complain and gripe and la, la, la and my kid is fine, you know.' And I think that has been huge for me – I don't think I would have stayed at a district for as long as I have you know without that…that support and knowing whatever I do, they're gonna help me out.

Participant responses indicated the importance of investigating and understanding the philosophical beliefs of employers regarding the priority given to the demands of sport versus the demands of health (Mathias, 2004). Further, participants emphasized the value of employers' support for return to play decisions that prioritized athletes' health over any sport demands. Most participants indicated that they would not want to be employed or remain employed by an organization that did not prioritize health over sport.

Defining sufficient salaries. One participant (#1) highlighted the importance of sufficient athletic trainers' salaries in off-setting the potential influence of financial incentives and bonuses. She stated,

> The amount of money you make has to influence your life and….so I think that's why it is important that athletic trainer[s], as a base salary we make [a] decent amount regardless of whether we win or not or regardless of how hard you work or not. So I really believe…sometime[s] I think that athletic trainer[s] paid by [the] hour, that seems to make sense. So if you work overtime you get paid overtime, and I think that's [a] great way to…..you know the state school or the high school have that extra, that's very reasonable. But bottom line is, I think you have to make decent appropriate pay. Therefore winning, or additional bonus, or those…you know, contract with Nike, free stuff…like those shouldn't really affect your lifestyle.

Consistent with Herring et al.'s (2013) advice to team physicians, this participant acknowledged that financial relationships with a team or organization must be managed to minimize potentially harmful conflicts of interest. If athletic trainers are not paid a sustainable wage, opportunities for financial gain through winning may compromise the primacy of the patient.

Changing traditional sports medicine structure. Another participant (#4) raised the possibility of a more non-traditional reporting structure for athletic trainers being a positive coping strategy for return-to-play decisional pressures. He stated,

> I know places, you know, good dear friend of mine back East that they've moved to this, where they [athletic trainers] answer to the student health center and not the athletic department. I don't know that I'm totally sold on that…but, I…I know there are situations out there that it's probably in the best interests of the student athletes to do that.

Courson et al., (2013) state that there is an inherent conflict of interest when athletic trainers are directly supervised by coaches or athletic program administrators. In these situations, medical decisions may be challenged and pressure for inappropriate return-to-play decisions can occur. For this reason, they advise against such supervisory structures. Rather, they suggest, similar to the proposal of the participant above, that a model in which the athletic trainer is employed by the school health center minimizes conflict of interest by making medical decisions based solely upon athletes' medical needs.

Foster confidence. Participant responses indicated that fostering confidence was a successful strategy for coping with pressures in return-to-play decision-making. Third order sub-themes of experience, collaborating with colleagues, and evaluating outcomes emerged as important factors in creating confidence.

Experience. Participant responses indicated that experience was an important variable in creating confidence in return-to-play decisions. Participant #5 explained,

> I think it comes down to the whole confidence component…whether or not you're gonna stand up to a coach that's pushing you. You may not be ready to do that you know, at the beginning of your career. Now, I'll go toe-to-toe with anybody, like I know the facts and I know the reason why I'm doing things and I have no problem telling someone point blank like, 'no, this is this decision.'

Another participant (#4) noted,

> Wisdom is a big thing in this job. Um…yeah, I think it's really important and…yeah, it's just the ability to see what the long-term effects of certain injuries are…you take a different perspective on things. I don't care what anybody says,

> when we're fresh coming out of school, we've got all the answers and I've learned I don't have hardly any of the answers right now. So, um…yeah I…I…I think…longevity, wisdom, call it what have you, experience, you know…when you're put in…you know, when we talk about pressures from different elements, when you're put in those situations and you've dealt with them before, it's a whole lot easier.

Participant #11 stated the following about increased years of experience,

> I don't think it's changed the pressures. I think my…my…not necessarily my approach, but my reassurance or my confidence in having been through those situations, especially early in my career uh…has kind of influenced my…my approach and my steadfastness in certain situations that um…I really feel that if I need to take a stand that is against popular opinion, as long as I make the decision that is justified and is in the best interest of the patient um…then I am making the right decision. So, I…I think it…over the years, I've fallen into that um…reassurance or confidence in that approach that as long as I stay within those guidelines, everything is fine, and if I fall outside of those guidelines, that's where it's more open for interpretation and judgment.

Finally, participant #12 explained,

> I think my first few years, that was always a really difficult thing, just having that confidence to tell coaches that may have been around for twenty years or something, you know, that, 'so-and-so can't play.' Um…and so I think it has made it easier in that way, and then I'm gaining more confidence It's…it's never gonna be easy to hold someone out or make a return to play guideline, you know,

> saying, 'ok, this person is ready and this person is not going to be ready and is not going to be ready for a while.' Um…but definitely I've had more situations that I've learned from and so that makes it easier.

In summary, participants suggested that confidence comes with repetition in making return-to-play decisions. As prior decisions are made, that knowledge and experience were drawn upon enabling a greater ability to stand up for decisions in the future.

Collaborating with colleagues. Participant responses indicated that collaborating with colleagues regarding difficult cases enhanced confidence in return-to-play decisions. Participant #4 stated,

> I mean, I can't tell you the number of colleagues that I help with or…or…call me or consult because they have to deal with a difficult parent or you know, '[AT name], how would you deal with this?' Or 'how have you done that?' I mean those are, and…and then there were people who would do that for me.

Another participant (#8) described it this way. "I think it's huge. It's always good to bounce ideas off someone. So I think just…just to see um…basically maybe they're going through the same thing that you went through, or they know somebody who's gone through that."

Participant #10 explained that less experienced athletic trainers can collaborate with more experienced athletic trainers,

> If I did have a question of…of, 'if they're ready' I always had, because I wasn't the head athletic trainer, I was just the assistant athletic trainer, I could go to my head athletic trainer and since they've been doing it longer than I have, I could

> say, 'this is what I have, this is what I've been doing, do you have any other recommendations for me?' And so I think having that sounding board was always beneficial for me that if I did have a question I could go to them and not…they never would judge me and so wouldn't go, 'are you sure you should be doing this?' or anything like that because I always made sure that if I was letting someone go back to play, I could explain why they were going back to play.

Participant #2 explained that collaboration occurred among all members of the sports medicine team,

> Our relationship with our clinic and the doctors there and the physical therapists there, I think helps a lot too. So they'll always back us up…um, you know and…my colleague at the high school we'll back each other up too on everything, and we're really on the same page on a lot of that so…I think that helps the most. Just having that resource group…all of those different resources to rely on and knowing that they will back us up.

A team approach to athlete healthcare is advocated for in consensus statements for both team physicians (Herring et al., 2013) and athletic trainers (Courson et al., 2013). As part of that team approach, participants in this study promoted collaboration among all members of the sports medicine team to improve the efficacy of return-to-play decision-making. Within the team approach, athletic trainers are able to learn from the experiences of others to decrease the clinical uncertainty in their decisions and thereby decrease the risk for social pressures to influence return-to-play decisions (Malcolm, 2009).

Evaluating outcomes. Participants spoke to the value of evaluating outcomes of return-to-play decisions to improve their confidence in and refine their choices in future decisions. Participant #11 stated,

> I believe that if…if you are a good athletic trainer, you are constantly analyzing and reanalyzing what you're doing and the approach you're taking. So, yes, I think over the…over the years there are a number of things that um…that could go either way depending on situation, depending on…on where I'm at with my perspective. I think if you get in the situation where you've got a few bubble decisions, and they go uh…they go well, then you're gonna get a little more aggressive. Whereas, if…if you make those decisions and…and they don't turn out the way that you want them, then you reel back and get a little more conservative.

Another participant (#9) voiced similar thoughts,

> I think also honestly reviewing the decisions that we make…and learning from them. Um…and I think that we've all made decisions where, 'oh…I put them in too soon,' and you learn from that. And then conversely, it's like, 'man, you know I was probably a little too conservative on that one.' I think honestly evaluating those things, or 'I let my personal feelings influence that.' Or you know, 'I let the pressure of the clock influence that.' I think that's really important.

Participants indicated value in self-reflection to gather confidence in how to handle future return-to-play decisions.

In summary, participants identified strategies they found successful in coping with decision-modifier variables encountered in the return-to-play decision-making process. Developing guiding principles for decision-making, educating and establishing relationships with stakeholders, creating proper work environments, and fostering confidence emerged as sub-themes that enabled participants to avoid non-medical factors from having undue influence on return-to-play decisions.

Professional Preparation for Dealing with Decision Modifier Variables

The second portion of the third purpose of the study was to examine athletic trainers' perceptions of their professional preparation for dealing with decision-modifier variables in return-to-play decision-making. Thus, participants were asked to describe their experiences with educational preparation for coping with decision-modifier variables. Their responses centered around two second-order sub-themes of perceived shortcomings and suggestions for improvement in education (Figure 11).

Perceived shortcomings. Participant #4 highlighted his perceived shortcomings of new athletic training graduates,

> I don't see our athletic trainers…student athletic trainers, students coming out of the educational programs having the necessary decision-making ability when they first come out. And yet, you know they pass the certification test and go work in the business, and I…I think it's a real injustice. Now, do we need to put in some parameters? I've had this discussion with Sarah Brown. Absolutely. You can't be using students as your work force for a college, but I think the pendulum has swung way too far, and I…I'm pretty passionate about that [laughs] as you can tell [laughs again].

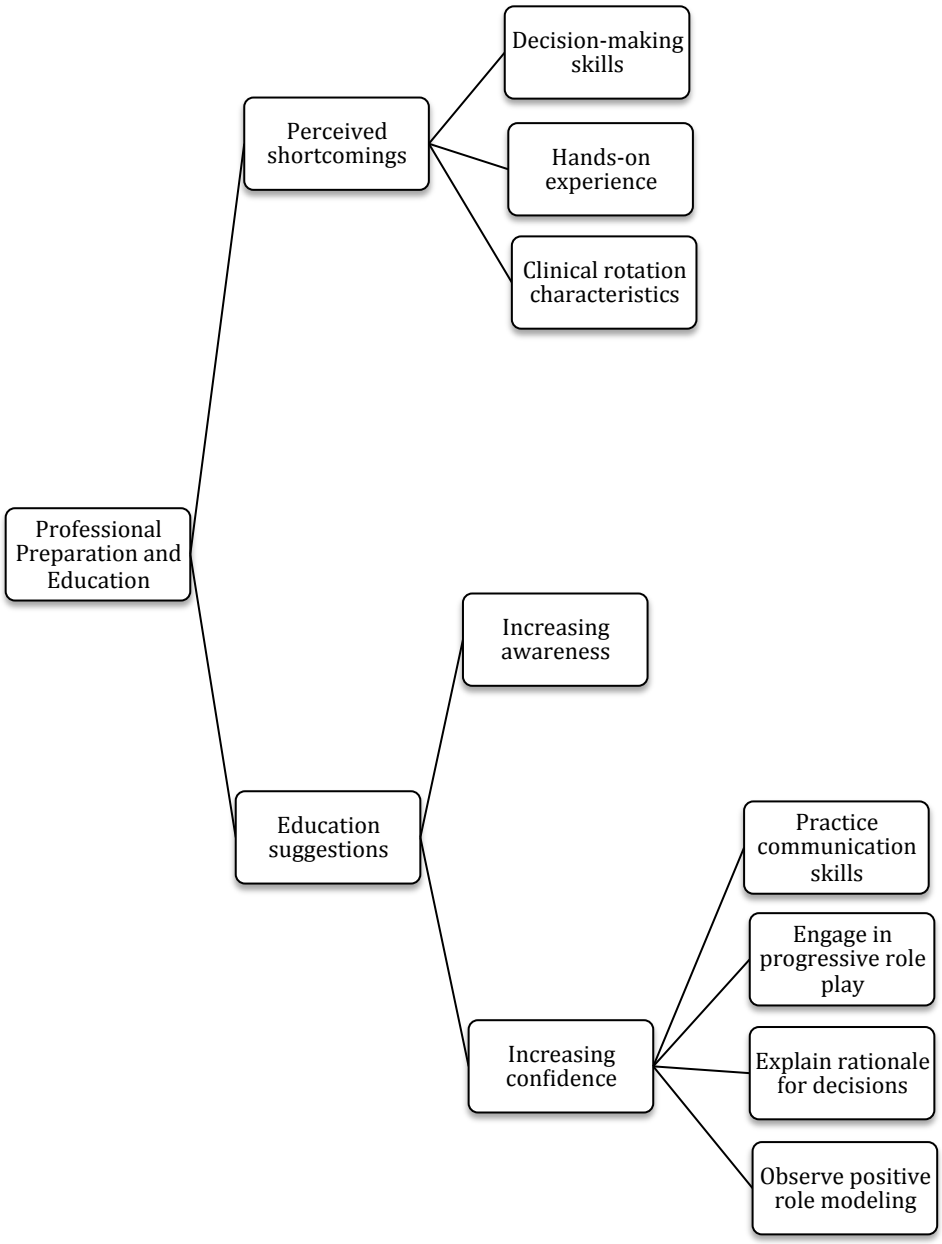

Figure 11. Perceived athletic training shortcomings and suggestions for improvement in return-to-play decision-making skills.

He later stated, "I think that our student athletic trainers should have the ability to have more hands-on experience and have to develop better decision-making skills."

Participant #9 spoke to the importance of required hours to increase the chance that athletic training students are present when learning opportunities take place,

> You have to learn by doing. You know, I think requiring the hours is extremely important. Um…preparing them that sometimes there's not going to be that much to do, but sometimes you're gonna see something that's gonna change you forever, and you have to be there for that moment to happen. Or you miss it.

Another participant (#10) described the challenges presented by the short length of some clinical rotations. She noted,

> If they [athletic training students] can see it [rehabilitation] from start to finish, I think that's really beneficial. It's so hard sometimes though because you may be at a high school and a person gets injured but then you leave in six weeks, and you don't see that progression of getting them back to return to play.

Several participants spoke of the importance of placing athletic training students in clinical rotations where they are allowed to engage in the hands-on experience necessary to build confidence and decision-making skills. Participant #4 stated,

> It's really apparent to me that our education is in conflict with a lot of our clinical education at…at…many especially the big schools. I mean…I know BCS schools, they want no part in the student athletic trainers… And…and…and I can't blame them. You know, if…if I'm at a BCS school and I'm a coach, and my job depends on wins and losses and that's the difference between me making half a million dollars a year and taking care of my family and my children and my

> grandchildren, and…this, you know, sophomore kid you know we gotta teach…Get them outta here. I want the best for my kids. So, I can't blame them for that. They gotta figure out better scenarios.

Another participant (#10) voiced similar concerns albeit a little more discreetly,

> I really think it's just those hands-on experiences in the training room. I know we were a clinical site for students, and I felt that at [institution name], we gave them a lot more hands-on experience than what their other sites were giving them.

In summary, participant responses suggested that athletic training education was falling short in sufficiently developing athletic training students' decision-making skills. This finding is consistent with the employers of new athletic training graduates who felt that new graduates' decision-making skills were deficient (Carr, 2012). Employers felt that new graduates had sufficient knowledge, but did not apply that knowledge well in the clinical setting. Participant responses in this study attribute deficient decision-making to a lack of hands-on experiences at some clinical settings. Further, they suggest that clinical rotations that do not allow students to experience the full progression from injury to return-to-play compromise students' ability to make appropriate decisions. Finally, one participant highlights the need for athletic training students to be present in order to learn and develop these skills. Athletic training is a bit like roulette in terms of whether an injury will occur or not during any given clinical experience. Athletic training students who spend greater numbers of hours in clinical experience increase the likelihood that they'll be present when teachable moments do appear.

Education suggestions. Participants offered several suggestions to improve the preparation of athletic training students for making safe and ethical return-to-play

decisions. Third-order sub-themes of increasing awareness and increasing confidence emerged from their responses as critical education pieces. Fourth-order sub-themes that contributed to increasing athletic training students' confidence included, practicing communication skills, engaging in progressive role play, explaining rationale for decisions, and observing positive role modeling.

Increase awareness. Participant #12 suggested that athletic training students should be made aware of the pressures they may encounter,

> I mean, just trying to prepare them as much as possible for the different personalities they're gonna have to deal with. And just knowing that there's gonna be people who listen to them, respect their decisions, and do what they say. And then there's gonna be people who no matter what they say…no matter…you know, sometimes I think there are some people who just want to disagree with you just for the sake of disagreeing with you…you know, just to kind of make you wonder. So, um…just kind of getting them used to the different kinds of personalities.

Increase confidence. Participant responses earlier identified confidence was an effective coping strategy for dealing with decision-modifier variables in making return-to-play decisions. It is therefore not surprising that participants suggested that increasing confidence in athletic training students was critical. Participants' responses suggested that sub-themes of practicing communication skills, engaging in progressive role play, explaining rationale for decisions, and observing positive role-modeling were ways to increase students' confidence.

Practicing communication skills. Participant responses indicated that athletic training students would benefit from opportunities to rehearse communication skills with stakeholders in return-to-play decisions. Participant #2 stated,

> …trying to give students opportunities to try and talk to coaches, to talk to parents. Um…because you don't get a lot of that here [college setting]. You know calling and explaining something to a parent and the parent is either irate or the parent is you know, crying and thinks they need to come and…you know just getting more exposure to dealing with parents…or more exposure dealing with doctors…um, you know…being an advocate for what you do and why you're doing what you're doing to explain it to others, not just certifieds, but other parents and doctors.

Similarly, participant #5 described,

> I think one of the greatest gifts I got at [institution name] was my ACI made me talk to the coach. And I was scared to death…nicest coach ever, like I don't know what I was ever scared of because now I'm friends with him and his family [laughs], but um…it was the best thing he ever did for me because he told me what to tell him and then I had to go do it, and…like…'ok, I'm going to go do this'…but it set me up for when I went to grad school when I had to present my first injury report to the entire football coaching staff. Was I still scared? Yeah, but I had already done it before. So I think putting students in situations where they're safe um….gives them an opportunity to learn without having to worry about you know, job security…all these other external factors, and then you build confidence that way.

Several studies (Carr, 2012; Massie, Strang & Ward, 2009; Stiller-Ostrowski & Ostrowski, 2009) have identified a lack of communication skills, especially with coaches, parents, patients, and administrators, among entry-level athletic trainers. Similar to participants' recommendations in this study, these studies have advocated for increased emphasis on communication preparation among athletic training students.

Engaging in progressive role play. Participant responses indicated athletic training students should also gain confidence and experience through progressive role playing scenarios. Participant #6 suggested, "I think being able to put them in situations that…where we're in structured situations and you can encourage some role-play um…and give them those situations and then deconstruct it afterwards." Similarly, participant #8 stated,

> Do a simulation…where you give them the different scenarios…just like you would do with different athletes, and…see how they would deal with it. Um…but probably, that's probably what I would do…that coaching simulation where I'd give them uh…you have somebody come in…or have one of the coaches come in and have that student approach the coach with that injury…and then have the coach either go crazy or calm and then just see…kind of play it out…kind of role-play it I think is a good way to do it. Just kind of introduce them to it at least.

Participant #3 provided even greater detail on how to progressively work with athletic training students. She described,

> And I don't know whether it would be like, you know, telling them their freshman year or their sophomore year, 'this is what, you know, could happen to you,' and then you know the next year you say, 'alright, we're gonna pretend'…you know,

> 'so I'm gonna be this mean, angry coach, and I'm gonna come say some stuff to you, and I need you to come back'…'cause you know practicing when it's not real is going to be easier and you can laugh and say, 'my gosh, you're mean…' and so go through some stuff I think would be a lot easier than um…when you're in it. And then ask seniors have them kind of go with some coaches and you can maybe stack the deck a little bit and say, you know, 'don't be mean, but I want you to…like when they're making a decision be like I need to know right now, like can he go? Do I need to get someone in for him?' You know and just kind of…don't be mean, but just be a little more eager to have that information so kind of see, so they get it in a safe environment before they're…they have to do it by themselves and stuff. And just drill into them like you do when they take their certification exam.

Role playing scenarios are useful in athletic training education to familiarize athletic training students with clinical situations they may not encounter in their education (NATA, 2011). Participants in this study suggested employing progressively more realistic role-play scenarios to improve students' confidence when confronted with decision-modifier variables in return-to-play decision-making. Creating scenarios for students to work through and then deconstruct afterwards can provide them with much needed experience and confidence in coping with potentially influential decision-modifier variables.

Explain rationale for decisions. Several participants indicated that requiring athletic training students to provide rationale for their decisions could improve confidence in those decisions. Participant #11 explained,

> I think really just try and continue to educate them on the process, make sure that they have their criteria in place and that they follow it. I think also…put them in…not in situations where they will have to make the decision, but in situations where they have to explain the decision. Uh…have them address it with staff, with coaches, um…with the patients themselves. Um…but while they're in the ATEP you…you should always have that safety net in place as well…so you can intervene if coach begins to escalate um…or become argumentative um…same thing with the patient. So you put them in those situations, and…and you make them, not necessarily squirm, but you make them learn and adapt to those situations.

Another participant (#5) described her experiences as a preceptor,

> But I think also building that kid's confidence, 'why are you making this decision?' Can you make this decision and explain why. Um…I think that's one of the things I learned most when I was here was when I asked a senior student, 'Why are you hooking up that modality?' and she had no idea. And I didn't do it to be mean, I did it so she could explain to the athlete why she was making that decision. And it was surprising to me that she thought I was picking on her, because so many of those situations were presented to me that I…I didn't think I was being mean, I thought I was giving her an educational experience, but um…I think more opportunities like that where the kids just know that they have to be able to explain why they're doing something, I think that would be beneficial in an academic role because it's safe.

Participant responses acknowledge that athletic training students should not be making independent return-to-play decisions; however, they stipulate that students be able to justify why a decision is a correct one and effectively communicate that rationale to preceptors and other stakeholders. Participants suggest that understanding and communicating that rationale can increase the confidence of students when they have to make independent return-to-play decisions in the future.

Observe positive role modeling. Participants spoke to the value of having athletic training students observe positive examples of how to handle difficult return-to-play decision. Participant #1 stated,

> I think being exposed to many clinical sites or many mentors because everybody has [a] different way to approach that [making return-to-play decisions]….and [the] more they get to see, more they learn, because no matter how we try to simulate, they cannot or should not make [return-to-play] decision while they are [a] student.

Similarly, participant #5 explained, "I think having students see a confident clinical instructor interacting with a coach, or interacting with an athlete or administration…and laying down the facts…I think they learn by example."

Participant #10 described her view of role modeling,

> You know, for undergrad…I think we touched upon, you know saying, 'you're gonna deal with coaches, some are nice, some are mean' but that was…that was pretty much it. Um…I feel that it's almost having to set an example of you know, 'ok, this is how I'm going to handle talking with my coaches.' And I like to bring my students with me and you know, 'ok, we're going to go talk to the volleyball

> coach about his athlete' and let them see how you engage, because I don't think…you know, they're not gonna know otherwise until they get in it themselves. So if they can see…and just see by example say, 'ok, this is how I handle it. You can handle it however you want, but just know that this is…this is one way of handling it. Put it in your toolbox, use it if you like it and if you don't, you don't have to do it this way.' Um…it's easier said than done because sometimes it's just in that rush of the training room and the coach comes in and you're like 'yes, no, they can go, they're done' and then that's it. You know and so sometimes it's if you can take them, and sometimes it's very difficult, then they can get a lot out of it too.

Another participant (#9) voiced a similar philosophy,

> I think first and foremost, you've got to throw them in the fire. Every opportunity we have to have them observe a conversation um…I take them with me to go talk to a coach. "Ok, you're a fly on the wall, don't say a word, sit and listen and learn…good or bad…think about what you would do, think about what brilliant thing I just said [laughs]…and think about what you would do differently." And so, I think those situations, there's no substitute. We can't teach them that from a book. We can't. It's not possible.

Participant responses suggest the importance of modeling the return-to-play decision-making process for athletic training students. As mentioned by participants, athletic training students should not independently make return-to-play decisions; therefore, it can be challenging for them to gain experience and confidence in the process. Observational learning can increase students' exposure to these situations and give them

knowledge, vicarious experience and thereby confidence in what works and what does not for their future encounters with influential pressures regarding return-to-play decisions.

CHAPTER FOUR

Conclusions and Future Research

This chapter will summarize the research findings and present a suggested educational framework derived from them to better prepare athletic training students for making return-to-play decisions in their professional careers. The chapter will then examine the strengths and limitations of the study and provide suggestions for future research. A final summary paragraph will conclude the chapter.

Summary of Results

The purposes of this study were to examine within an athletic trainer population a) the accuracy, applicability and comprehensiveness of Creighton et al.'s (2010) decision-based RTP model, b) to what extent and under what circumstances decision-modifier variables influence return-to-play decisions, and c) the perceptions of athletic trainers' professional preparation and strategies for dealing with decision-modifier variables in return-to-play.

Results revealed that Creighton et al.'s (2010) decision-based RTP model required modification and expansion to accurately reflect the return-to-play experiences of athletic trainers. The 3-step process highlighted by the model accurately reflected athletic trainers' sequence of decision-making; however, modifications and/or expansion of the lists of medical factors, sport risk modifiers, and decision modifiers were necessary to fully reflect all the variables athletic trainers identified as relevant in each step of their return-to-play decision-making process. Medical factors considered by athletic trainers in the evaluation of athletes' health status included signs and symptoms, functional testing, psychological state and personal medical history, consistent with the original

model. However, contrary to the original model, physical healing emerged as a unique theme athletic trainers considered during their evaluation of athletes' health status. Furthermore, lab tests, patient demographics and potential seriousness, factors included in Creighton et al.'s original model, were not included in athletic trainers' experiences of evaluating health status.

Results relative to the sport risk modifier variables supported all of Creighton et al.'s (2010) model categories as relevant in athletic trainers' return-to-play decision-making. Furthermore, the results suggested that potential seriousness move from a medical factor (step 1 of Creighton et al.'s model) to a sport risk modifier (step 2) to best reflect athletic trainers' experiences. In addition, environmental conditions, expertise of physicians, and psychological state emerged from the data as additional sport risk modifier variables athletic trainers considered when making return-to-play decisions.

Results from the decision modifier variables that affect athletic trainers' return-to-play decisions indicated that Creighton et al.'s (2010) original list of variables required expansion to comprehensively reflect the influences athletic trainers experienced in their return-to-play decision-making. Similar to what was proposed in Figure 4, decision modifier variables identified by athletic trainers emanated from external and internal sources (see figures 7 and 8). The only decision modifier variable from Creighton et al.'s (2010) original model not supported by athletic trainers' experiences was masking the injury, possibly due to the fact that pain modification falls more under the auspices of sport team physicians. External decision modifiers encountered by athletic trainers included situational pressures, such as game and player importance, time issues, and competitive level; external people, such as athletes, parents, coaches, agents, non-team

physicians, administration, management, media, other athletic trainers, and officials; and sources of financial conflict of interest, such as bonuses, incentives or the athletes' financial state. Internal decision modifier variables encountered by athletic trainers included anxieties over job security, litigation, or professional reputation, and personal factors, such as age and experience, emotional attachment, personal biases, and gender.

Regarding the second purpose of the study, results revealed that certain situational circumstances increased the amount of pressure athletic trainers encountered in their return-to-play decision-making. Athletic trainers indicated that as the number of situational circumstances present increased, so too did the extent of the pressure they experienced. These situational circumstances included financial issues, player importance, time urgency, philosophical beliefs on winning, and the degree of familiarity with athletic trainers. When these situational circumstances interacted with personal characteristics of athletic trainers such as inexperience; job security, reputation or litigation concerns; high emotional attachment; and personal biases leaning towards overconformity, the potential for athletic trainers to modify their return-to-play decisions based on non-medical factors increased. This could potentially result in return-to-play decisions that violate the ethical and professional expectation that athletic trainers prioritize the health of the patient above all other concerns.

A number of successful coping strategies athletic trainers employed when faced with unwanted decision-modifier variables emerged from the data. Development of objective, evidence-based protocols that were applied consistently across athletes and that considered the long-term consequences of playing through injury helped to mediate the influence of decision-modifier variables. Additionally, educating and establishing

trusting relationships with stakeholders, including athletes, parents, coaches, and administrators eased the return-to-play decision-making process for athletic trainers, and made stakeholders less likely to try to exert influence over their decisions. Creating a positive work environment and fostering confidence in decision-making skills also emerged as effective coping strategies used by athletic trainers to maintain a firm stance on return-to-play decisions that focused on the primacy of the patient.

Finally, results revealed that athletic trainers perceived that their professional preparation and education fell short in developing effective return-to-play decision-making skills. It was proposed that the shortcoming resulted from a lack of hands-on experience due to inadequacies in clinical experiences. The results did offer suggestions for improving professional preparation for athletic trainers by first focusing on increasing their awareness of the challenges they may encounter in the return-to-play decision-making process. Furthermore, the results suggested that effective preceptor modeling of return-to-play communication and decision-making skills combined with progressive role-playing opportunities where athletic training students actively practice these skills could enhance athletic training students' confidence in and preparation for return-to-play decision-making.

Practical Implications

As evident throughout the paper, athletic trainers do walk a narrow ethical path as they attempt to negotiate the return-to-play decision-making process. As pointed out by Malcolm (2009), the clinical uncertainty inherent in return-to-play decisions increases the likelihood that athletic trainers are exposed to social pressures that attempt to influence that decision. As seen in the paper those social pressures can challenge athletic trainers

to modify their return-to-play decisions thus moving them in one direction or another along the continuum of conformity (Hughes & Coakley, 1991), moderation – hubris (Lurie, 2006), or sensible – unsensible risk (Safai, 2003). Preparing athletic training students to successfully cope with potential decision-modifier variables is essential if they are to successfully walk the narrow ethical path.

The coping strategies (see Figure 10) and the education suggestions (see Figure 11) offer an excellent evidence base for the development of an educational framework to better prepare athletic training students for coping with non-medical factors that could influence their return-to-play decision-making. The previous results identify 5 key elements for the education framework: a) increasing awareness of potential modifying influences in the return-to-play decision-making process, b) increasing confidence in athletic training students' communication and decision-making skills, c) optimizing clinical site characteristics, d) investigating future employer practices, and e) understanding the effects of emotional investment.

Increasing awareness. The first step in effectively preparing athletic training students' for coping with the challenges of return-to-play decision-making is to increase their awareness of the precarious position athletic trainers are often placed in when trying to balance the demands of sport with the demands of health (Mathias, 2004). Creighton et al.'s (2010) decision-based RTP model with the athletic training revisions provides an excellent foundation for educating athletic training students on the process of making return-to-play decisions. Educators should incorporate this model and the revised lists of medical factors, risk modifier variables, and decision modifier variables identified in this study in their discussions of the return-to-play decision-making process. The 3-step

process should be emphasized as should the revised list of potential decision modifier variables in Figures 7 and 8 and the 'perfect storm' scenario outlined in Figure 9.

Awareness of the expanded list of non-medical factors athletic trainers will encounter in step 3 of the model (see Figures 7 & 8) will assist athletic trainers in proactively preparing themselves for how they will cope with such variables. If the first time athletic trainers think about these potential influences is when they actually happen, they are already in trouble. As participant #5 stated regarding reputation concerns affecting decision-making, "…but you know, now having it brought to my attention I might think about it twice [laughs]." And as participant #2 noted regarding starting status affecting his return-to-play decisions, "I honestly don't…that's…I'm gonna have to look at that this year on how I react…I haven't thought of it like that."

Furthermore, increased awareness of the narrow ethical path athletic trainers attempt to trod and the social influences that may pull them from that path is crucial. The 'perfect storm' scenario (see Figure 9) identifies the circumstances that result in greater amounts of pressure and the personal factors that make athletic trainers more likely to succumb to those pressures and modify their return-to-play decisions. Awareness of these variables enables athletic training students to enter the work force prepared for potentially challenging situations. Equally important in athletic training student education is an emphasis on the documents that define the narrow ethical path, including the Code of Ethics (NATA, 2005) and the Standards of Professional Practice (BOC, 2006). Educators should place specific emphasis on exposing athletic trainings students to these informational sources to increase their awareness of the ethical challenges they may face in preserving the primacy of the patient in their clinical decision-making.

Increasing confidence. Consistent with previous research (Carr, 2012; Stiller-Ostrowski & Ostrowski, 2009), participants in this study indicated that athletic training students need to develop greater levels of confidence in their communication and decision-making skills. Confidence in these skills was identified as an effective coping strategy. Evident in the results of the study are several confidence-building techniques that athletic training educators should seek to implement: creating experiences, evaluating outcomes, developing guiding principles, and building support networks.

Creating experiences. Participants in this study stated that a critical element to improving confidence in both communicating with stakeholders and return-to-play decision-making is experience. While it is inappropriate for athletic training students to make independent return-to-play decisions, opportunities for gaining experience in decision-making and communicating regarding those decisions must be facilitated. Role modeling and progressive role-playing offers athletic training students opportunities to gain experience in both making decisions and communicating those decisions to stakeholders.

Participants indicated that early in athletic trainers' professional careers it is difficult for them to possess the confidence to go toe-to-toe with more experienced coaches, doctors, administrators, parents or even athletes over differences of opinion regarding return-to-play timelines. Progressive role-play scenarios can provide the experiential learning so the first year on the job is not the first time athletic training students encounter these challenges. As a first step in the progression, preceptors can model appropriate decision-making and communication skills by letting their athletic training students witness return-to-play scenarios as they occur in the clinical practice.

Many times these decisions are made and conversations held outside of the presence of athletic training students. Preceptors should be intentional about making return-to-play decisions, verbalizing their rationale for those decisions, and engaging in conversations with stakeholders about those decisions when students are present. Through this process, athletic training students can vicariously gather skills that they can draw from in the future.

As confidence and knowledge are gained through observation, the second step in the progression is to have athletic training students role-play return-to-play scenarios with peers, preceptors, and/or actual stakeholders. Within these manufactured scenarios, decision-modifier influences can be manipulated depending on the skill-level of the students. Athletic training students can be challenged to make decisions, communicate decisions and effectively explain the rationale for their decisions to all relevant stakeholders. Through this process, athletic training students build skills and confidence in decision-making, communication, education, and relationship building. All of which were identified as important coping strategies in the return-to-play decision-making process.

Finally, when athletic training students have demonstrated proficiency in these manufactured scenarios, they should progress to recommending return-to-play decisions for their preceptors' approval and then communicate approved decisions to stakeholders. In these 'live' scenarios, preceptors must be physically present to intervene if needed. This progression grants increasing levels of decision-making and communication autonomy for athletic training students yet still meets the direct supervision expectations of athletic training education programs.

Developing guiding principles. Consistent with other research with sports medicine physicians, participants in this study highlighted the benefits of establishing protocols that govern the general process for return-to-play (Matheson et al., 2011; Shrier et al., 2010). Evidence-based, objective benchmarks that are consistently applied across athletes and that take into account the potential or known long-term effects of participation greatly assist the risk evaluation process and enable athletic trainers to more easily define sensible risks (Safai, 2003). In this way, athletic training students can gain confidence that return-to-play decisions are based on medical factors rather than sociocultural influences. Education programs should focus on teaching evidence-based protocols that prioritize the health of athletes over all other concerns.

Evaluating outcomes. Participants indicated that confidence was gained from evaluating outcomes, both favorable and unfavorable, of return-to-play decisions. Throughout the role-playing progression outlined above, preceptors should actively engage athletic training students in debriefing and evaluating the outcomes of return-to-play decisions. According to participants, this reflective process provided valuable experience that could be drawn from in future decision-making situations. Refining return-to-play decision-making and communication skills based on previous outcomes can increase athletic training students' confidence in these skills.

Building support networks. The results of this study indicate participants' confidence in return-to-play decision-making and communication skills were facilitated by establishing support networks. Professionally, participants emphasized the value of collaborating with colleagues when tough decisions needed to be made. In athletic training, it is improbable to personally experience every injury that happens in sport.

Therefore, it is imperative to draw upon the wisdom and experience of trusted colleagues who may have faced similar situations. Participants acknowledged reliance on mentors and/or colleagues for guidance when facing an unfamiliar return-to-play situation. Athletic training students need to be reassured that humility and not having all the answers, especially immediately upon entrance into the profession, is to be applauded and will facilitate growth and ethical decision-making much faster than going it alone. Furthermore, participants emphasized the value of having administrators and team physicians as part of that support network that were known to 'have your back' when tough decision needed to be made. Those professional supports can increase confidence that resources are available and accessible when difficult or challenging return-to-play scenarios arise.

In addition to professional support networks, participants emphasized the importance of developing rapport and trust with other stakeholders (i.e., athletes, coaches, parents) before tough decisions had to be made. Tough return-to-play decisions were more readily accepted and less often challenged when positive interpersonal relationships with athletes, parents and coaches had been nurtured and established. Athletic training students should be encouraged to proactively cultivate positive relationships as top priorities upon assuming any new athletic training position. When tough decisions must be made, that rapport and trust will enhance receptivity among stakeholders.

Optimizing clinical site characteristics. Clinical sites impact the degree to which opportunities for confidence-building experiences naturally exist. Participant responses indicate that program directors and clinical education coordinators should prioritize several key ingredients that will facilitate experiences. First, clinical sites that

require athletic training students to have hands-on experience with both decision-making and communicating those decisions to stakeholders should be maximized. As mentioned in the results, athletic training students' development of much-needed skills are compromised when students are sheltered from active participation in communication or decision-making due to the organization's or coach's lack of interest in working with them. Optimally, clinical sites should offer ample opportunities for athletic training students to interact directly, under supervision of their preceptors, with all stakeholders in the return-to-play decision. Second, rotations at clinical sites must be of sufficient duration for athletic training students to see return-to-play progressions in their entirety. This enables athletic training students to observe the building blocks that lead to objective return-to-play decisions. Longer clinical rotations will also facilitate athletic training students' experiences in developing trust and rapport with athletes and other stakeholders. This rapport can serve as a foundation for the support networks discussed earlier. Finally, clinical hours requirements must be significant enough to enable athletic training students to effectively observe and practice clinical decision-making and communication skills.

Investigating future employer's practices. The results of this study indicate that education programs highlight the importance of athletic training students investigating the employment practices of potential job sites to determine how or if they minimize the potential for challenges to return-to-play decision-making autonomy. First, athletic training students should investigate potential employer's philosophical views on the primacy of the patient versus win-at-all costs mentalities. This philosophical position does not necessarily determine whether a job should be taken or not; however, it will

disclose potential sources of pressure athletic trainers may encounter in their decision-making if employed there. Second, athletic training students should be taught to investigate the supervisory structure including, who has promotion and termination authority and to whom the athletic trainer would report. Employment situations where coaches, administration, or management have undue influence over return-to-play decisions can compromise the well-being of athletes and are not recommended as optimal supervisory structures (Casa et al., 2012; Courson et al., 2013). Finally, salary structures should also be investigated to ensure that sufficient compensation is offered. This will minimize the likelihood of financial conflict of interest influencing return-to-play decision-making.

Understanding the effects of emotional investment. Finally, athletic training students need to understand the importance of emotional investment in facilitating rapport and trusting relationships with athletes, coaches and other stakeholders in the sportsnet. However, consistent with recommendations of other research (Courson et al., 2013; Devitt & McCarthy, 2010; Johnson, 2004a; Salomon, 2002), athletic training students must be aware that emotional attachment can cloud professional objectivity and must remain in check during the return-to-play decision-making process.

In summary, athletic training education programs can facilitate healthier, more ethical return-to-play decision-making in their students by adhering to the above guidelines. Increasing awareness of the return-to-play decision-making process and the variables that can compromise its integrity is an essential first step. Next, athletic training students need to enter the work force confident in their decision-making and communication skills. Effective modeling, progressive role-playing, support networks,

guiding principles, and reflective evaluation of previous decision outcomes will enhance athletic training students' confidence in these skills. Clinical sites that facilitate athletic training students' hands-on involvement in clinical decision-making and communication skills and that are sufficient in duration to allow athletic training students to fully experience the rehabilitation progression will further prepare them for entry-level careers. Investigating employers' practices in the job search process will help athletic training students discern the potential challenges they may face in their job. And finally, understanding the double-edged sword of emotional attachment will facilitate objective and ethical return-to-play decision-making.

Strengths/Limitations and Future Research

This study's strengths relate to the findings and the methods used to obtain the results. First, this study builds on the body of knowledge regarding decision-modifier variables encountered by athletic trainers in making return-to-play decisions. Previous research in athletic trainer (Swisher et al., 2009) and sport team physician populations (Anderson & Gerrard, 2005) identified the presence of outside pressures in return-to-play decision-making as a key ethical issue facing professionals; however, neither study identified the sources of those pressures. In response to Matheson et al.'s (2011) concern that "what has been missing from our understanding is a systematic evaluation of the nature and extent to which nonmedical factors influence the RTP [return-to-play] decision-making process," (p. 28) this study addressed this missing link.

A further strength of this study relates to the method used for understanding athletic trainers' experiences in making return-to-play decisions. The qualitative approach used in this study provided quotes that offered a richness and depth to

understanding the interplay of social and cultural factors that mediate risk negotiation and modify return-to-play decision-making behaviors in 'real world' versus hypothetical contexts.

As with all qualitative research, the major limitation of this study is the lack of generalizability of the results. Although this study provides rich data on the breadth of decision-modifier variables encountered by athletic trainers, future quantitative research could investigate the prevalence of the decision-modifier variables and their predictive impact on return-to-play decision-making.

Another limitation of this study was that due to the length of participant interviews, it was not possible to fully probe all aspects of interest that emerged from participant responses. For example, participants spoke of athletes' psychological state as both a medical factor and risk modifier variable in athletic trainers' return-to-play decision-making experiences. Since previous research has demonstrated that athletes' psychological state can impact their injury susceptibility (e.g., Andersen & Williams, 1988; Williams & Andersen, 1998) as well as their post-injury emotional response and recovery (e.g., Flint, 1998; Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998), it will be important to integrate the psychology of injury literature with Creighton et al.'s (2010) decision-based RTP model. Although it was beyond the scope of this study, future research and education efforts should seek to do so.

Additionally, this study identified unique decision-modifier influences across varying competitive levels (e.g., parents in youth and high school sport, agents in professional sport). This is a positive in that it demonstrates that the level of competition creates a unique return-to-play decision-making environment; however, the inclusion of

multiple competitive levels in this single study limits the ability to tease out which decision-modifier variables are most relevant at each competitive level. Future research may want to further investigate these differences as well as relevant differences in coping strategies used by athletic trainers at varying competitive levels. In this way educational efforts to prepare athletic training students could be work place specific.

Future research may also want to address the perceived differences identified in the degree of stakeholder receptivity of return-to-play decisions based on the sex of the athletic trainer. Female participants spoke of perceived gender-influenced differences in stakeholder receptivity in both positive and negative terms, while male participants did not speak of any perceived effect. The length of the interviews for this study prevented probing this topic in greater depth; however, the results suggest that this is a topic worthy of further investigation.

Finally, future research on non-medical influences in return-to-play decision-making could investigate factors contributing to stakeholders' motivation to influence return-to-play decisions. This study revealed that parents' and coaches' behaviors regarding pressing for faster or slower return-to-play fell along a continuum much as athletes' behaviors fall along a sport ethic conformity continuum. While research has identified many reasons for athletes to conform to the sport ethic (Bianco, 2001; Charlesworth & Young, 2004; Malcom, 2006; Nippert, 2005; Pike & Maguire, 2003; Podlog & Ecklund, 2006; Safai, 2003; Walk, 1997, Young et al., 1994; Young & White, 1995), much less is known regarding why parents or coaches would press for athletes to return faster or slower from injury. Such research would provide a much broader picture of the sport culture in which athletic trainers operate.

Conclusions

In conclusion, a 3-step decision-based return-to-play model effectively outlines the process athletic trainers experience in making return-to-play decisions. Medical factors of signs and symptoms, functional testing, physical healing, psychological state, and personal medical history were used to evaluate athletes' health status in step 1 of the process. Sport risk modifiers including type of sport, position played, limb dominance, competitive level, ability to protect, potential seriousness, environmental conditions, expertise of physicians, and psychological state were evaluated in determining participation risk in step 2 of the process. Finally, in the third step both external and internal variables were identified as potential decision modifiers. External factors included situational pressures, external people, and financial conflict of interest. Internal factors of anxieties over job security, litigation, and reputation, and personal factors such as age, experience, emotional attachment, personal biases, and gender also had potential decision-modifying effects.

Results indicated that a 'perfect storm' combination of situational and personal factors increased the likelihood for return-to-play decision modification. Athletic trainers identified the development of guiding principles, education and relationship building with stakeholders, creating proper work environments and fostering confidence as effective strategies for coping with the influence of decision-modifier variables. Finally, increasing athletic training students' awareness of potential modifying influences in the return-to-play decision-making process, increasing their confidence in their communication and decision-making skills, using clinical sites that facilitate experiences, investigating employer practices, and understanding the effects of emotional attachment

serve as foundational components for overcoming the perceived shortcomings in current professional preparation of athletic training students for making ethical return-to-play decisions.

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Appendix A

Demographic Questionnaire

Name: _____ Code/Alias:

Age: _____ Gender: M F

Number of Years as Certified Athletic Trainer:

Athletic Training Experience (Include experiences in all levels of competitive sport – e.g., professional, Olympic/Elite, College – specify division, High School, Youth Sport, Master's Level, etc)

Years	**Competitive Level**	**Name of school or team**	**Your title**	**Sport(s)/Gender(s) covered**	**Ages of athletes**
e.g., 2007-10	Professional	Minnesota Vikings	Associate AT	Football (M)	21-40 yrs
2010-12	College – NCAA, DIII	Linfield College	Head AT	Swimming (M/F) Baseball (M) Soccer (F)	18-22 yrs

Appendix B

Interview Topic Guide

1. Explain purpose of interview
   To examine ATs experiences in making RTP decisions
   To examine how RTP decisions are made
   To identify factors that influence RTP decisions
2. Confirm athletic training experiences recorded on demographic questionnaire

3. What is the role of the athletic trainer in RTP decision-making?
   How does your role intersect with that of the physician and other health-care providers?
   Who is the best person to make RTP decisions?
   Does this vary by case?
4. How do you determine an athlete's readiness to RTP following injury?
   physically
   psychologically

5. How do you determine an athlete's level of risk for re-injury when making RTP decisions?
   What factors increase or minimize the risk?
   How does risk of re-injury affect your RTP decisions?

6. On a continuum from conservative to aggressive, where would you place yourself regarding your RTP decision-making?
   Is this position constant or does it change?
   What causes it to change?
   How do you think others perceive you on this continuum?

7. What non-medical factors impact your RTP decision?
   Prompt with questions 8-15 and these follow-ups:
   To what extent does this variable influence your RTP decisions?
   Under what conditions does this variable have the greatest influence on your RTP decisions?
   What strategies do you use when xx try to influence your decision?

8. Tell me about your experiences with *athletes* in making your return-to-play decisions
   prompt: experiences where they tried to talk you into *faster/slower* return?

9. Tell me about your experiences with *other people* influencing your return-to-play decisions
   athletes' parents/family
   coaches
   your administration and/or management
   athletes' teammates

media
peers
prompt: experiences where they tried to talk you into *faster/slower* return?

10. How might *situational factors* influence your RTP decisions, such as…..
status of the athlete
age of the athlete
competitive level of the athlete
gender of the athlete
"last chance" to compete
time of the season
your closeness to team
no pain-no gain motto of sport
prompt: experiences where these factors led you to *faster/slower* return?

11. What factors contribute to feelings of time pressure for you as an AT?
Overworked?
Understaffed?
How might time pressure influence your RTP decision-making?
prompt: experiences where time pressure led you to *faster/slower* return?

12. Tell me about any experiences you've had with financial loss/gain due to your RTP decisions
your personal loss/gain
loss/gain of athletes
loss/gain of team for which you worked
prompt: experiences where financial factors led you to *faster/slower* return?

13. What experiences have you had with concerns of litigation affecting your RTP decisions?
Threat of legal action for being too aggressive/too conservative?

14. Tell me about any experiences you've had regarding your RTP decisions affecting your job security?
Being too aggressive/being too conservative?
Different expectations based on level at which you work?

15. How has your increasing age and experience influenced your RTP decision-making?

16. How might athletic training education programs better prepare students for RTP decision-making?

17. Anything else you think is important to tell about athletic trainers' RTP decision making?

Appendix C

INFORMATION SHEET FOR RESEARCH

CONSENT INFORMATION SHEET

Making return-to-play decisions in competitive sport: Challenges, coping and preparation among athletic trainers

You have been identified as a possible participant in a research study examining athletic trainers' experiences with making return-to-play decisions. This study is being conducted to meet the dissertation requirements for Laura Kenow's doctoral degree. The title of the study is "Making return-to-play decisions in competitive sport: Challenges, coping and preparation among athletic trainers." The purpose of the study is to investigate factors that influence athletic trainers' return-to-play decision-making processes in competitive sport settings and athletic trainers' perceptions concerning their professional preparation to deal with these factors.

You were selected as a possible participant because of your professional experiences as an athletic trainer in competitive sport settings.

If you agree to participate in this study, you will be asked to complete a short 7-item demographic questionnaire and then participate in an audio-recorded personal interview lasting approximately 60-90 minutes. The interview would be scheduled for a mutually agreeable time and location.

The risks to you as a participant are minimal other than being asked to provide information on your professional experiences in making return-to-play decisions. You will be assigned a coded alias to protect your anonymity in the transcription of your interview responses, and any identifying information in your interview responses will be altered to your satisfaction to protect your privacy in the publication of research results. Furthermore, you may choose not to answer any interview question with which you do not feel comfortable. You also retain the right to withdraw from the study at any point.

There are no direct benefits to you for your participation. However, your participation may benefit others through increased knowledge and modification of athletic training education methods regarding return-to-play decision-making.

If you have any questions regarding this study, you may call Laura Kenow at 503-883-2580. If you have any questions about your rights as a research participant, you can call the Research Subjects' Advocate Line at 612-625-1650. This research has been approved by the Institutional Review Board at the University of Minnesota.