ABSTRACT

THE COLLEGIATE ATHLETIC TRAINER’S ROLE IN MENTAL PREPARATION AND MENTAL SKILL DEVELOPMENT OF COLLEGE ATHLETES

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The purpose of this study was to determine collegiate athletes’ and collegiate ATCs’ perceptions of the role of ATCs in mental preparation. It has a mixed methods design; the qualitative design utilized focus group interviews consisting of 25 college athletes in groups of 4-8, and the quantitative design utilized an online cross-sectional descriptive survey consisting of college ATCs in NATA District 4 (N=911, n=260, 29% response rate). Athletes with positive relationships with their athletic trainers feel their athletic trainers have a role in mental skill development and mental preparation. Athletic trainers utilized counseling and foundation skills with athletes. Athletic trainers would benefit from more education and training in these areas to better serve athletes.
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Athletic training is an allied health profession that utilizes several domains of knowledge and skills. An athletic trainer can work in many settings, such as an industrial setting, physical therapy clinic, high school, doctor’s office, performance enhancement center, or college/university. In this paper, athletic trainers are referred to as ATCs, which is the acronym for Certified Athletic Trainer. ATCs have many roles, which depend on the type of facility where they work; as well as their level of supervision (Pulice, 2008).

In some settings, the ATC may be involved with many aspects of the athlete and competition; while in other settings, the ATC may play a minor role. For example, in the high school and college settings, the ATC is generally more involved with the athlete than in the clinic setting. The ATC generally attends all practices and games and, as a result, develops a close relationship with the athlete. Athletes generally become very comfortable with ATCs and often confide in them. The ATC becomes the first person they seek out when they are hurt, sick, confused, struggling or simply have a question or want to talk (Moulton, Molstad & Turner, 1997).

Athletes, especially elite and professional athletes, have specific routines they follow before competition. Some may put their shoes on in a certain order; others eat a certain meal or listen to a certain music playlist. Some athletes go to the training room. They may heat or get taped, or they may simply go to talk and relax before a game. As ATCs get to know their athletes, they know what to say and how to act around specific athletes before competition. Some athletes want to talk, some want to focus on the game, or some want a routine of treatments. The ATC plays a part in the athlete’s mental preparation, even if that role is just to be present. However, research has largely ignored the role of the ATCs in the context of mental preparation and mental skills development outside the specific context of injury rehabilitation. Most research has focused on the “psychology of injury,” including athletes vulnerability to injury (Wagman & Kheilfa, 1996), the efficacy of mental training in reducing injuries (Naylor, 2009), athletes responses to injury (Wagman & Kheilfa, 1996), and mental strategies for injured athletes (Larson, Starkey & Zaichowsky, 1996). However, there is a paucity of research examining the role of athletic trainers in the mental preparation and mental skills development of athletes.

There have only been three major studies that have examined the issue of ATCs being involved in psychosocial intervention and referral. College ATCs reported high levels of counseling roles on issues related and unrelated to injuries (Moulton et.al., 1997). While their role in the psychological well-being
of the athlete is well established in the realm of injury, research is lacking in the role of the ATC in areas outside of injuries. Ford and Gordon (1998) evaluated the advantages and disadvantages of utilizing ATCs in psychosocial interventions. A disadvantage is that they are not as well trained in areas of psychosocial interventions. An advantage is the proximity of ATCs to the athletes. They are in the best position to measure change and progress. Ford and Gordon (1997) emphasized the need for psychosocial intervention and referral by ATCs, and indicated that many ATCs want to know more about their role in mental interventions with athletes, as well as to understand how to refer athletes to appropriate mental health professionals (Ford & Gordon, 1997). Larson, Starkey & Zaichowsky (1996) examined athletic trainer’s attitudes towards psychological techniques utilized in injury rehabilitation. This study showed ATCs do teach and encourage the use of mental skills with athletes, but this study is limited to ATCs working with injured athletes, and athletes rehabilitating from injury.

Mental preparation is important to performance. Just as physical preparation (training, conditioning and warm-up) helps improve the skills needed to perform, mental preparation (imagery, goal setting, focus and concentration, and confidence building) helps athletes reach their potential in performance (Vealey, 2005). Coaches have the most direct and obvious role in preparing athletes for competition and influencing mental preparation. However, athletes may also seek out help from others, such as teammates, parents, sport psychology consultants, or ATCs. The ATC is potentially influential with athletes, arriving well before them to prepare for the game (Vealey, 2005). Visiting the ATC becomes part of many athletes’ pre-game routine, and the ATC can influence their mental preparation during this time.

Research has examined the role of athletes, coaches, sport psychology consultants and strength and conditioning coaches in mental preparation, but as of yet the role of the ATC in these situations has not been examined (Crust, 2003; Hedrick, 2004; Vealey, 2005). Therefore, the purpose of this study is to determine collegiate athletes’ and ATCs’ perceptions of the role of ATCs in the mental skill development and mental preparation of college athletes.
Chapter 2
Review of Literature

The review of literature is divided into four sections. The first section describes the role and scope of athletic training in sport. This includes the education of ATCs, laws regulating the practice of athletic training, as well as the role of ATCs in the high school, college and clinic settings. The second section describes mental skill development and preparation in athletes. It includes strategies of mental preparation, as well as its effectiveness in motivation and performance. The third section describes the role of various professionals in mental skill development and preparation in athletes. These professionals range from physicians to sport psychology professionals to accessory personnel. The fourth section is a brief overview of psychological research related to athletic injury.

Role and Scope of Athletic Training

ATCs are allied health professionals that have completed an accredited curriculum and passed a national certification exam. The Role Delineation Study is based on a survey of ATCs that details the types of work ATCs are doing in the field. The study then lists the minimum entry-level knowledge required to work in those fields. The Role Delineation Study divides athletic training education into six domains and twelve competencies upon which an accredited education is based (Board of Certification, 2004b). Athletic training education programs are governed by the Board of Certification. This body enforces the twelve competencies of athletic training. One of the twelve athletic training competencies is called Psychosocial Intervention and Referral, and this competency includes issues such as the grieving process associated with injury, motivation, and relaxation techniques (Board of Certification, 2004a). Within this competency, there are 15 sub-competencies. While some of these sub-competencies deal directly with injury or illness, there are competencies outside the realm of injury. These include communication, basic counseling skills, mental preparation skills, personality development, as well as signs and symptoms of common psychological disorders. These have been found to be important skills for entry-level ATC’s to possess and develop. These skills assist the ATC in performing assigned and implied duties such as encouraging athletes, assisting them with transitions, and screening them for referrals to more qualified professionals.

The education of athletic training is overseen by an accreditation body. A certification exam is required to become an ATC. The practice of athletic training is governed on the state level. All states require certification and most states require a license to practice. In Ohio, certification and a licensure are required. The certification demonstrates that the ATC possesses the knowledge and skills to practice, while the license dictates what falls into the scope of athletic training, or what the ATC is
licensed to do in that state. The Ohio Board of Occupational Therapists, Physical Therapists and Athletic Trainers (2008) defines athletic training as:

The practice of prevention, recognition, and assessment of an athletic injury and the complete management, treatment, disposition, and reconditioning of acute athletic injuries upon the referral of an individual authorized to practice medicine and surgery, osteopathic medicine and surgery, or podiatry, a dentist, physical therapist or a chiropractor. Athletic training includes the administration of topical drugs that have been prescribed by a licensed health care professional authorized to prescribe drugs. Athletic training also includes the organization and administration of educational programs and athletic facilities, and the education of and consulting with the public as it pertains to athletic training (p. 3).

As Ohio’s state law’s definition suggests, the job description of the ATC is dependent upon the type of work performed and the ATC’s supervisors. Job descriptions will vary for ATCs working in clinics, doctor’s offices, high school, or college settings. Because of this, there is a lack of explicit description of what ATCs are legally allowed to do in the realm of psychology and mental preparation. Certain practices such as counseling are governed by licensed psychology or counseling professionals. Other practices are not as protected, such as mental coaching by professionals trained in sport psychology. There is no specific description of what the ATC can and cannot do in the realm of mental skills training and preparation. Do athletes and ATC’s perceive that teaching mental preparation and mental skills are acceptable within the athletic training license? To what extent do ATCs already engage in the teaching of mental preparation and mental skills?

Research has begun to examine whether ATC’s utilize counseling skills with athletes. Moulton et.al. (1997) studied the role of collegiate ATCs in counseling athletes. This study evaluated ATCs’ perceptions of athletes need for counseling; whether the ATCs felt they were capable of assisting the athletes needing counseling, as well as the procedures ATCs followed when athletes have psychosocial needs. Moulton et.al. (1997) interviewed 14 collegiate ATCs. The top five self-reported roles of the collegiate ATC included educator, injury advisor, nutritionist, counselor and problem solver. In these roles, more than 70% of ATCs reported athletes expressing concerns regarding conflicts with coach or players, health-related concerns, career decisions, sexually transmitted diseases, injury mechanisms, sport enhancement, sport demands, and rehabilitation protocols. This illustrates how comfortable athletes feel with communicating with their ATCs. ATCs reported feeling comfortable discussing personal issues with athletes, but were concerned about training in providing appropriate professional responses. Only five of the fourteen felt they received adequate training in counseling.
ATCs are in the best position to provide psychological services to athletes, but there are several limitations to what ATCs can do (Ford & Gordon, 1998). An ATC is not a licensed counselor, and cannot provide these services. ATCs may experience conflict between what they are trained and qualified to do, and providing for the needs of the athlete. Moulton and colleagues (1997) suggest that ATCs need further training in counseling, and need to be aware of when to refer athletes to properly trained and licensed professionals.

As Moulton et.al. (1997) pointed out, ATCs reported athletes as feeling very comfortable discussing various topics with them. Because of this, ATCs are in an ideal situation to help athletes who may be experiencing psychosocial problems. They are also in an ideal situation to provide assistance in mental preparation techniques. This study will highlight the extent to which ATCs utilize this ideal situation in influencing the mental skill development and preparation of athletes. ATCs are present every day, and tend to know athletes very well. ATCs often help athletes recover both physically and psychologically from injury (Ford & Gordon, 1998). Ford and Gordon (1998) examined the extent to which ATCs are trained to handle psychological issues and referral, as well as the extent of their practice of psychological skills training. Psychosocial intervention and referral is one of the twelve competencies of athletic training, which means athletic training students learn these skills in college, but most ATCs feel they need more training in recognizing their limitations.

Ford and Gordon (1998) also evaluated the advantages and disadvantages of utilizing ATCs in psychosocial interventions, sport trainers and athletic therapists (international equivalents of American ATCs) in Australia, New Zealand and Canada as research participants. This study supported the need for psychosocial intervention and referral, and showed that many sports trainers and athletic therapists wanted to know more about their limitations and how to refer to the proper professional. They were in the best position to measure daily changes. A disadvantage was found in utilizing ATCs for psychosocial intervention in that they are not as well trained in areas of psychosocial intervention. An advantage of utilizing ATCs in psychosocial interventions found in the study was in the proximity of ATCs to the athletes.

Misasi, Davis, Morin & Stockman (1996) described how ATCs tend to take on new roles; “Due to daily availability to athletes and role as healthcare providers, ATCs often assume the role of ‘father/mother/confessor’...the scope of counseling goes beyond that of orthopedic care into areas not traditionally applied to ATCs” (p.42). Athletic trainers often incorporate new roles into their practice. This study hopes to explore whether mental preparation and mental skills development is among those new roles.
Mental Preparation and Mental Skills Training in Athletics

ATCs are educated in Psychosocial Intervention and Referral (Board of Certification, 2004b). This includes motivational and mental coaching techniques, though ATCs’ utilization of these skills has not been researched. Mental preparation involves the utilization of psychological skills to improve psychological factors such as focus, attention, or anxiety before competition (Vealey, 2005). It concerns athletes getting themselves mentally ready for competition. To a degree, though not always apparent, all athletes utilize mental preparation, but some utilize the techniques more effectively than others. Athletes generally have a “pre-game routine” that they follow, and at some point mentally focus on the upcoming competition. The higher the level of competition, the more likely an athlete is to utilize these skills (Gould, Eklund & Jackson, 1992). ATCs also have a greater presence with athletes in higher levels of competition, which puts them in a place to help athletes refine these skills.

Mental preparation is the process used to achieve optimal performance, optimal development, and optimal experiences in sport (Vealey, 2005). It is the process of preparing oneself to think, feel and perform to the best of his/her ability. Mental preparation occurs when an athlete follows a mental training plan. This plan may be formal and specific, or it may have just fallen into place. Successful athletes tend to have more systematic mental preparation plan than less successful athletes (Gould et.al., 1992). Systematic mental preparation plans tend to have an order in which things are done before competition. Mental preparation plans can be used to “program” the athlete on how to think, feel, and perform for a game, and they can also be used to prepare the athlete for less than ideal situations to more effectively handle these situations. This can be complex and include tools such as imagery scripts, affirmations and a review of goals, or as simple as putting the right shoe on before the left (Vealey, 2005). In regards to the athletic training room, it may include getting taped or stretched before a game, venting frustrations to “air out” before a game, or having the ATC say a certain phrase before the game. Mental preparation plans can also be used in rehabilitation from injury to help the athletes think, feel and perform optimally during their rehabilitation (Moulton et.al., 1997).

Mental preparation is a complex process that must be practiced. It is a skill that can enhance not only an athlete’s performances, but their attitudes and responses to performance (Sailes, 1994). Mental preparation can be a key factor that determines success in competition. Proper mental preparation can help an athlete be prepared to handle adversity during competition. Every athlete has experienced defeat and struggle, difficulty in regaining momentum, and frustration in games (Linz, 2007). Mental preparation can help athletes handle these emotions more effectively. The ATC can be the one to help the athletes develop these skills to handle their individual situations more effectively.
Goal setting is an example of a technique used within a mental preparation plan. Goal setting is a technique often utilized to direct and improve performance. A goal is a “specific standard or accomplishment that one strives to attain” (Vealey, 2005, p. 149). Setting goals and developing goal maps help direct behavior towards achieving goals, and provides goal achievement strategies. ATCs most often use goal setting in rehabilitation of injuries. Wayda, Armenth-Brothers, & Boyce (1998) described ways systematic approaches to goal setting enhances athlete’s motivation and commitment with regards to injury rehabilitation. Systematic goal setting in rehabilitation of injuries clarifies each person’s role in the rehab process, gives the athlete an active role both psychologically and physically in rehab, helps the athlete understand the importance of the exercises, provides optimal challenges, gives athlete feeling of control, holds athlete accountable for rehab, increases self-confidence, breaks rehab into manageable steps, and decreases anxiety by providing focus.

Another mental skill ATCs seem likely to influence during rehabilitation is motivation. Research involving ATCs and an athlete’s motivation has two main foci: improving motivation to comply with injury rehabilitation or diminishing a loss of motivation as a result of injury (Fisher, 2006), and what to do with an over-motivated athlete at risk of injury/re-injury (Frey, 2008). Motivation can be defined as “the direction and intensity of one’s effort” (Weinberg & Gould, 2007, p. 154). Motivation influences choice of activity, effort to pursue goals, intensity of effort in the pursuit of those goals, and persistence in the face of failure (i.e. injury).

Motivation can also influence an individual’s choice to continue participating in the face of fear of injury. Chase, Magyar & Drake (2005) studied psychological strategies utilized in gymnastics to control fear of injury. Gymnastics is a unique sport with high levels of training and risk of injury that put great levels of mental and physical demands on the athletes. As gymnasts’ skills increase, so does the level of training, the level of competition, and the risk of injury. As these factors increase, the emotional demands on the athletes increase. These emotional demands can include fear, apprehension, and anxiety. Fear can lead to physiological and psychological changes. Physiological changes include muscular and autonomic changes that can lead to injury, while psychological changes can include focus and concentration, that can also lead to injury. It is important for gymnasts to overcome their fears to decrease their chance of injury. Gymnasts have developed specific mental preparation strategies to control these fears (Chase et.al., 2005). This study was qualitative in nature, and examined the strategies utilized by gymnasts to overcome their fear of injury. The most common injuries the gymnasts experienced were fractures and sprains and strains. These could be either acute or chronic
injuries. The gymnasts reported fears relating to the fear of injury, including difficulty returning, unable to participate, fear of serious injury, negative emotional responses (Chase et al., 2005). Chase and colleagues (2005) described higher self efficacy as being related to lower fear of injury. Sources of self efficacy in gymnasts included performance information, communication, self-awareness, and physical and mental preparation. Mental and physical strategies most commonly employed by gymnasts to overcome fear of injury included mental preparation, “just go for it”, coaches’ influence, positive self-communication, a lucky charm, and peer support (Chase et al., 2005). This study searched for common themes and practices used amongst gymnasts to overcome fear of injury, but did not deeply examine individual athletes to determine their specific motivations for competition. ATCs work with all levels of athletes with various levels of fear. Athletes generally feel comfortable vocalizing these fears with their ATC. The ATC could better serve these athletes by teaching mental skills to help overcome fears. The ATC may already be engaging in mental skills training with these athletes.

Another mental skill that ATCs may facilitate with athletes is emotional control. Hogg (1998) discussed the value of mental preparation in controlling and utilizing emotions. Mental preparation is a valuable technique in athletics. Hogg (1998) defined emotion as a “feeling that a person experiences in response to a particular event or happening” (2). Emotions play a large role in performance. They play a more obvious role when the emotions have a negative effect on performance. It is important for the athletes to have an understanding of their emotions, and the function of emotions within performance, develop strategies to control and activate emotions as needed, and educate the athlete on recognizing emotions within themselves during competition so they may control and/or activate specific emotions (Hogg, 1998). Proper mental preparation can not only help prepare for competition, it can help the athlete learn to control their focus and emotions during competition.

Specific emotions are triggered by specific stimuli. Mood states, however, are more long lasting, and generally have no specific stimulus. Emotions and mood states can be classified as positive (eagerness, excitement, anticipation) or negative (worry, fear, nervousness). These positive and negative effects can have a great effect on the body, specifically the tension in the muscular system, and the strength of the immune system. When athletes understand emotions, they will be more able to control them (Hogg, 1998). The steps involved in harnessing emotions include reflecting, assessing, and recognizing. When reflecting, it is important to recall good and bad events and performances, and reflect on the emotions felt during each performance, and then assess the intensity of the emotions/experiences. Finally, recognize the behaviors and how they affected performance (Hogg, 1998).
Various facets of mental preparation have been examined and published in sport psychology literature. Most commonly studied was the effect of mental preparation strategies on specific task-performance, as Gould, Weinberg & Jackson (1980) studied leg strength, and Chase, Magyar & Drake (2005) studied methods of controlling fear of injury. Hogg (1998) examined the role of mental preparation in controlling and activating specific emotions to enhance performance. These studies imply a role for a professional such as an ATC to facilitate these skills.

**Role of Professionals in Facilitating Mental Preparation and Mental Skills Training**

Coach’s have the most direct and obvious role in preparing an athlete for competition and influencing mental preparation. Athletes may also seek out help from others, such as a teammate, parent, sport psychology consultant, physician or ATC. Mann, Grana, Indelicato, O’Neill, & George (2007) evaluated sports medicine physicians’ perceptions of the psychological content of their practice. Generally, when athletes experience emotional or psychological problems, it is secondary to the physical and emotional stress of injury. The study surveyed physicians at sports medicine conferences. The survey had four sections. The first section asked about the physicians themselves, the second examined the frequency of which they encounter situations where patients may warrant a referral for psychosocial concerns, the third examined the frequency with which athletes bring up concerns not related to injury, as well as how comfortable the physicians feel assisting their patients with these concerns, and how interested they are in receiving more training. The last section examined available resources, how often physicians refer athletes to mental health professionals, and how effective other professionals were at treating their patients. The survey examined physicians’ beliefs of the effectiveness of both ATCs and sport psychologists.

The three most commonly reported issues physicians reported encountering with patients included fear of re-injury, fear of surgery, and lack of patience with recovery. The three most common non-injury concerns were stress, anxiety, and burnout. Primary care physicians were more likely to talk to athletes about these issues than orthopedic surgeons. Only 19% of responses indicated that there was an adequate amount of available resources for assisting athletes with psychosocial needs, and only 25% to 33% of responders indicated that they had referred athletes to mental health professionals. Physicians reported sport psychologists and ATCs to be effective in assisting athletes with psychological problems (Mann et.al., 2007). This implies that physicians see ATCs as capable of assisting athletes with psychosocial needs. This study supported the role of athletic trainers in assisting athletes with psychological problems.
While Mann and colleagues (2007) discussed their utilization of ATCs and their skills, they do not discuss the role of ATCs. The closest researchers have come to studying the role of ATCs in mental preparation and motivation is an interview conducted with certified strength and conditioning specialists (CSCS). A CSCS is considered accessory personnel that works closely with ATCs, or may be an ATC, as many are dually certified. It is likely that if a CSCS has a role in mental preparation, an ATC would as well. A CSCS interviewed three other CSCS’ to determine their role in mental preparation and motivation with the team (Hedrick, 2004).

Hedrick (2004) found that one CSCS had a very clearly defined role as a strength and conditioning specialist. This CSCS had no role outside of leading the strength and conditioning sessions, and therefore had no role in motivation outside of motivating an athlete to complete their training program. Hedrick (2004) found the other CSCS’ had roles in the focus and mental preparation of the team. The second CSCS interviewed focused on goal setting as well as team motivation. Once the athletes set goals, the CSCS developed checkpoints so the athletes could monitor their progress toward their goals. This increased confidence in achieving the big season long goals. This is a skill utilized by ATCs in situations of rehabilitation of injuries, as well as other situations. The third coach had a very large role in preparing the athletes. This CSCS’ roles included fostering leadership, discipline, accountability and collective efficacy. The CSCS spent a significant amount of time with the athletes as well as the coaching staff to pinpoint areas of team and individual weakness. It was also important for the CSCS to aid the coach in reforming the individuals into the team. On a week to week basis, the CSCS developed a theme to follow and prepare them for the game (Hedrick, 2004).

On an individual basis, this CSCS got to know the athletes and their motivation styles. The CSCS then focused on ways to boost motivation based on the individuals, such as goal setting and rewards. The CSCS also recognized the influence of outside factors, such as school and family struggles on performance, and focused on boosting proper coping skills (Hedrick, 2004). The ATC also looks at the influence of outside factors on performance to help the athlete recover from injury and perform at optimum levels.

The CSCS had a large role in preparing athletes for the strength and conditioning aspects of competition. Depending on the institution, and how the CSCS fits with the team’s personnel, as well as how directly the CSCS works with one or more teams, the CSCS may have other roles outside of just strength and conditioning (Hedrick, 2004).

As discussed, there are several studies on the role of coaches in mental preparation for competition and motivation. Again, there is a gap in research as to the role of ATCs in mental
preparation of athletes. They do demonstrate avenues in which ATCs may influence mental preparation, though it has not been researched. Mann, Grana, Indelicato, O'Neill, & George (2007) demonstrated the use of ATCs in situations needing psychosocial referral within or outside the realm of injury.

Crust (2003) shared a tool for coaches and sport psychology consultants to pinpoint physical and psychological areas of self-perceived weakness to develop an individualized plan for athletes. Again, Hedrick (2004) was probably the closest evaluation of a professional’s role in mental preparation and motivation to an ATC’s role. While ATCs and strength and conditioning coaches are vital to a team’s performance, they are generally seen as a periphery member of a team. They are related professionals, and many ATCs are dually certified as a strength and conditioning specialist. It is likely that if strength and conditioning coaches are seen as having a role in motivation and mental preparation, then ATCs do as well.

Overview of Psychological Research Related to Athletic Injury

The purpose of this study is to examine the role of ATCs in mental skills training and preparation, and is not specifically limited to the context of injured athletes. The majority of research regarding ATCs and psychology/psychological skills, however, has been limited to the context of injured athletes and rehabilitation of injury (Vealey, 2005). Thus, a brief review of this literature is provided here.

Research on the psychological side of injury is a relatively young area of study. In its most basic form, it can be divided into three categories: athletes’ vulnerability to injury, psychological effects of injury, and the effect of psychological intervention on injury recovery (Wagman & Khelifa, 1996). Naylor (2009) provided strategies for ATCs to utilize in preventing injury. A main role of ATCs is preventing injury, which involves technique, equipment and a proper mindset. Naylor highlighted the combination of physical exercise and mental skills training to prevent injury. This would promote self-awareness with goal-setting, self-talk, imagery and relaxation. The cognitive-behavioral approach is a good fit with athletes. It reaches a cognitive skill with a behavioral technique, such as goal setting and imagery. Wagman & Khelifa (1996) described several psychological effects of injury, including pain, stress/anxiety, anger, disbelief, depression and fear. Fear can include fear of re-injury, not recovering fully, losing starting position, job or source of income, losing social support of friends, family and coaches, and loss of athletic identity. Wagman & Khelifa (1996) provided an overview of psychological characteristics and situational factors that mediate the extent to which an athlete experiences the psychological effects of injury. Psychological characteristics that may mediate the psychological effects of injury include self-esteem, trait anxiety, locus of control with injury and rehabilitation, self-efficacy.
and levels, and sources of motivation. Situational factors that may mediate the psychological effects of injury include the nature and severity of injury, the type of sport and position, the time in season, the context of injury (during play, practice, free-time, cheap shot, etc.), and the athlete’s athletic identity. The bulk of the research regarding the effects of psychological interventions and skills training on injury compliance and rehabilitation suggests that it is an excellent tool to be used in combination with physical rehabilitation (Vealey, 2005).

Larson, Starkey, & Zaichkowsky, (1996) surveyed the perceptions of practicing ATCs concerning the attitudes, beliefs and application of a variety of psychological techniques they use in their work with injured athletes. According to NATA research, “most entry-level ATCs should have spent about 6% of professional preparation in the area of psychological considerations in sport.” The top five interventions used by ATCs include keeping the athlete involved with the team, setting short term goals, encouraging positive self-thoughts, utilizing creative rehabilitation strategies and encouraging effective communication. The top five areas ATCs want to learn more about include effective communication, realistic goal setting, creating variety in rehab, and understanding individual motivation.

The study by Larson and colleagues (1996) is similar to this study because it examines ATCs’ use of specific skills, including psychological and mental preparation skills. It is also relevant because it showed only about 25% of schools had an on staff sport psychology consultant. This highlights that there is not usually someone on staff to implement a psychological skills training program. Relating this to the study by Misasi and colleagues (1996), ATCs often assume roles not originally within the scope of athletic training. It is possible that it can be assumed ATCs assume the role of sport psychology consultant as well.

Again, research regarding the psychological aspect of injury is fairly limited. The research involving ATCs and psychological skills is limited to the context of athletic injury. The purpose of this study is to extend the current research by examining the ATC’s role without specifically narrowing the context to injury and rehabilitation.

**Purpose of Study**

Mental preparation is important to performance. Just as physical preparation (training, conditioning and warm-up) helps improve the skills needed to perform, mental preparation (imagery, goal setting, focus and concentration, and confidence building) helps athletes reach their potential in performance. Research has examined the role of athletes, coaches, sport psychology consultants, and strength and conditioning coaches in mental preparation, but as of yet the role of the ATC in these situations has not been examined.
Athletic training is a diverse profession. ATCs can work in many settings, and their roles adapt based on their work environment. High school coaches stressed the importance of ATCs being available when needed, though ATCs felt they served a larger role in training and conditioning of the team. College ATCs report high levels of counseling roles on issues related and unrelated to injuries. While their role in psychological well-being of the athlete is well established in the realm of injury, research is lacking in the role of the ATC in areas outside of injuries.

Therefore, the purpose of this study is to examine perceptions of the role of ATCs in the mental skill development and preparation of college athletes. The following research questions are addressed. Do athletes utilize ATCs in areas outside of injury? Do ATCs engage in behaviors and activities that help athletes improve their mental preparation skills? Are ATCs part of athletes’ pre-game routines?
Chapter 3

Method

Because this study attempts to examine the perceptions of both ATCs and athletes, two samples will be used. A quantitative survey will be used to examine ATC’s perceptions, because ATC’s will be more aware of their utilization of mental skill development strategies. However, with athletes, it will be more difficult to fully understand athlete’s perceptions and interactions with ATCs through a survey. This study assumes ATCs do have a role, but it is possible that athletes do not perceive this role. Therefore, a qualitative design utilizing focus groups, will be used to discover athletes’ perceptions, as well as to probe for deeper understanding. Focus groups will allow for direct contact with participants, encourage and support individual’s openness, encourages the interaction between participants, and allows for the formation of opinions by the participants (Vaughn, Schumm & Sinagub, 1996). This method section is thus divided into two subsections: one overviewing the quantitative design, and the other overviewing the qualitative design.

Quantitative Design

Participants. Approximately 1000 certified ATCs working in the college setting in the Midwest will be contacted, with an anticipated of 30% response rate for a sample of approximately 300 ATCs. ATCs will be contacted by email, and invited to participate in an online survey (see Appendix A for sample email). The email addresses will be obtained by the National Athletic Trainers’ Association Research and Education Foundation. The ATCs will complete informed consent by completing the online survey.

Instrument. An online questionnaire (Appendix E) will be emailed to collegiate ATCs in NATA District 4 (Great Lakes region). The survey will follow a table of specifications (ToS) (Appendix F). According to Turocy (2002), a ToS is an outline used to develop a survey. It guides the development of specific items and helps to establish criterion validity. A ToS consists of main topic areas which are related to the research questions or hypotheses. Within each main topic area, there may be subtopics. The questions written for a survey should fit into a topic or subtopic of the ToS (Turocy, 2002). For this study, the first section of the ToS is demographics (Section A). The demographic variables for this study include years certified, highest degree completed, additional certifications (open ended), gender, years working in college setting, number of teams with which the ATC works directly, main role within the institution (clinical, educational or both), whether the institution has an Athletic Training Education Program, typical job responsibilities (open ended), and a space to attach a job description if available.
The second section (Section B) has 16 questions. The stem for each of the 16 questions is the same: “In regards to time spent working with injured athletes, or athletes recovering from injury, please rate the frequency in which you utilize the following roles and skills.” Each of the 16 questions has the same likert type response measuring frequency. The response options range from Never, to 25% of the time, 50% of the time, 75% of the time to 100% of the time. These responses will be coded as having values ranging from 1-5, respectively, as used in the study by Larson et al. (1996). The first four questions will measure the ATCs perception of their role as a counselor as adapted from Moulton et al. (1997). The following twelve questions are adapted from the subscales of the Ottawa Mental Skills Assessment Tool-3 (OMSAT-3) (Durand-Bush & Samela, 2001).

The OMSAT-3 has 12 mental skills scales in its 85 questions. These twelve mental skills scales can be divided into three categories; foundation skills, including goal setting, confidence and commitment; psychosomatic skills, including stress reactions, fear control, relaxation and activation; and cognitive skills; including imagery, mental practice, focusing, re-focusing, and competition planning. These were adapted for this study by having a single item representing each of the twelve skills outlined in the OMSAT-3. The OMSAT-3 is a considered a valid instrument with alpha levels > 0.78, and test-retest reliability levels > 0.63 (Durand-Bush & Salmena, 2001).

The third section (Section C) has identical questions to Section B, only the stem has changed. Instead of measuring time with injured athletes, this stem reads “In regards to time spent working with non-injured athletes, not as a part of rehabilitation from injury, please rate the frequency in which you utilize the following roles and skills”. This advances this study past the injury-context-only limitations of previous studies, and allows for comparison of time spent teaching mental skills to injured athletes and to non-injured athletes.

The fourth section of the ToS (Section D), has three likert type questions ranging from strongly disagree to strongly agree. This section will be ask whether ATCs believe athletes prefer to learn and practice mental skills with the ATC, whether developing mental skills and mentally preparing athletes is a role of the athletic trainer, and perceptions of qualifications, as adapted from Larson and colleagues (1996).

The final section of the ToS (Section E) has three open-ended questions and explores ATCs education and continuing education, and recommended education for future ATCs, as adapted from Larson and Colleagues (1996).

The survey develop was subjected to expert review by collegiate athletic trainers. Suggestions were given and modifications to grammar and syntax were made. Sections B and C, the counseling and
mental skills sections, were subjected to a Q sort by 3 graduate students to examine whether the subscales created appeared valid. The Q sort team had congruent findings after individual work and group discussion.

Procedure. A link to the survey will be emailed to ATCs. Completed surveys will automatically be entered into a database. The data will then be analyzed.

Proposed Quantitative Analyses. The survey data will be entered into SPSS. The means and frequencies will be analyzed to examine perceptions. A comparison will be made using dependent t-tests between utilization of counseling and mental preparation and skills training in the context of injury and outside the context of injury (comparing sections B and C from the survey). Chi-square tests will also be utilized to compare demographic variables to responses. Responses to items based on the OMSAT-3 may be computed into foundation skills, psychosomatic skills and cognitive skills, and compared to other variables.

Qualitative Design

Participants. Approximately 50 college athletes (ages ≈ 18-24) from several divisions across a Midwest state will participate in the qualitative portion of this study. College athletes will be recruited by contacting the ATC of the institutions (see Appendix B for sample contact). The ATCs will be asked to help in gaining access to the athletic department and the athletes. Athletes will complete an informed consent form (Appendix C) prior to an interview and will schedule a tentative interview time within the fall sports season.

Focus Group Procedure. A moderator guide (Appendix D) will be used to help lead the discussion. This moderator guide will be a general plan with topics and possible probing and discussion questions (Vaughn et.al.1996). This moderator guide will have an introduction then cover five topic areas related to the purpose of this study. The introduction will discuss matters of tape-recording, confidentiality, the outline of the discussion, and courtesy in regards to respecting others opinions and not interrupting others. The first topic to be introduced will be mental preparation. This section of the discussion will explore what the athletes do to mentally prepare for competition. The second section will discuss mental skills; what mental skills are important for competition, etc. The third section will discuss mental skill development, such as who taught the participant mental skills and where does the athlete practice these skills. Finally, the fourth section will discuss the ATCs role in mental preparation and mental skill development. It is important to this study to begin by exploring athletes’ use of mental skills, and where they learn and practice these skills before discussing the role of the athletic trainer. First, if the athletes do not engage in mental skills training, they may not realize their athletic trainers’
possible role. Second, if they athletes do engage in mental skills training, it is possible they never made a connection between their athletic trainer and their personal mental skill development. Finally, it may be beneficial to utilize examples given during discussions of mental preparation and mental skill development to make a connection with their time spent with the ATC.

The focus groups will consist of 4-8 athletes. The focus groups will be recorded and transcribed verbatim with the help of a transcription service. The transcriptions will be examined for common themes and specific quotes to be drawn out.

Proposed Qualitative Analyses. Transcriptions from focus groups will be analyzed. A five-step analysis process by Vaughn et.al. (1996) will be utilized to analyze the focus groups. The first step is to identify the big ideas, which begins during the focus group by observing body language, choice of words, as well as common themes and notes taken. The big ideas will be used to guide the following analyses, but may be modified as needed. Second, the data will be unitized, or broken down into units. These units will most often be direct quotations related to the purpose of the study. Third the units will be categorized, or grouped by relatedness. Fourthly, the categories will be negotiated by relationships; some categories may stand alone while others may be collapsed due to interpretation of the quotes. Finally, themes will be identified from the categories.
Chapter 4
Journal Article
The Collegiate Athletic Trainer’s Role in Mental Preparation and Mental Skill Development of College Athletes

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ABSTRACT

The Collegiate Athletic Trainer’s Role in Mental Preparation and Mental Skill Development of College Athletes

Context: Psychosocial intervention and referral (PSIR) has expanded to incorporate the development of mental skills such as confidence and motivation.

Objective: The purpose of this study was to determine collegiate athletes’ and collegiate athletic trainers’ perceptions of the role of ATCs in mental preparation.

Design: Mixed methods design. Qualitative design utilized focus group interviews. Quantitative design utilized an online cross-sectional descriptive survey.

Setting: College.

Patients or Other Participants: Focus groups consisted of 25 college athletes in groups of 4-8. The total number of participants selected for this study was guided by theory saturation. Athletic Trainers from NATA District 4 (N=911, n=260, 29% response rate).

Data Collection and Analysis: Focus group interviews were audio recorded and transcribed verbatim. A five-step analysis process was used to analyze. Surveys were developed for this study, and a link was emailed to collegiate athletic trainers through NATA Research and Education Foundation.

Results: Three themes emerged from the focus groups: the amount of interaction with their athletic trainers, the sport played, and whether athletes felt athletic trainers go beyond their job descriptions. Athletic trainers utilized counseling and foundation skills with athletes, and they utilized these skills more with injured athletes than non-injured athletes. Only 31.9% (n=38) of athletic trainers surveyed felt they are qualified to teach these skills to athletes.

Conclusions: Athletes with positive relationships with their athletic trainers feel their athletic trainers have a role in mental skill development and mental preparation. Athletic trainers utilized counseling and foundation skills with athletes. Athletic trainers would benefit from more education and training in these areas to better serve athletes.

Key Words: Athletic Trainers, Mental Skill Development, Mental Preparation, Collegiate Athletes
INTRODUCTION

Over the years, Psychosocial Intervention and Referral (PSIR) has grown in importance as a competency of Athletic Training. This competency has expanded to include psychological techniques to influence motivation with rehabilitation from injury, and more training in basic counseling techniques. Research has examined the role of athletic trainers in counseling athletes, and psychological aspects of injury and rehabilitation, but research has yet to examine the role of athletic trainers in mental preparation and mental skill development. Also, research has yet to examine athlete’s perceptions of their athletic trainer’s role in PSIR. The purpose of this study was to examine the role of athletic trainers in mental preparation and mental skill development, as perceived by collegiate athletic trainers and by college athletes.

This study used a mixed methods design to gather quality data. Athletes were interviewed in focus groups, while ATC’s were administered an online survey. Both methods and instruments are described below. This study was approved by the university’s Institutional Review Board for the Protection of Human Subjects.

STUDY 1: COLLEGIATE ATHLETES

Qualitative Study Participants. Collegiate athletes were selected for this study due to their increased interaction with athletic trainers as compared to high school athletes, though individual participants were not targeted based on their amount of interaction with athletic trainers. Athletes for the focus group interviews were recruited one of two ways. First, they were recruited by the lead investigator at athletic study tables. Second, coaches were contacted, and forwarded our contact information to the team requesting them to contact us if they were interested.

Five focus groups were conducted, including a total of 25 college athletes. Of the 25, 60% (n=15) were male and 40% (n=10) were female. The sample was predominantly Caucasian (84%, n=21) and non-Hispanic (92%, n=23). Other races and ethnicities represented were Hispanic 8% (n=2), 4% (n=1) Native Hawaiian or Pacific Islander, and Black, African American or Haitian 1% (n=3).

High-risk sports (68%, n=17) represented include soccer (52%, n=13), baseball (12%, n=3), and football (4%, n=1). Low-risk sports (32%, n=8) represented include swimming (28%, n=7), and synchronized skating (4%, n=1). Most athletes interviewed (80%, n=20) were from NCAA Division III universities, while 20% (n=5) were from NCAA Division I universities. Freshmen were 32% (n=8) of the population, sophomores 24% (n=6), juniors 40% (n=10) and seniors 4% (n=1). The ages ranged from 18 to 21 years, with a mean of 19.4 ± 1.08. The average time spent in the athletic training room per week was 3.08 ± 1.75 hours, ranging from 0 to 6 hours per week.
**Qualitative Research Design.** A qualitative design utilizing focus groups was used to discover athletes’ perceptions of the roles of athletic trainers in mental preparation and mental skill development. Focus groups allowed for direct contact with participants, encouraged and supported individual’s openness, encouraged the interaction between participants, and allowed for the formation of opinions by the participants.  

The main research questions for this portion of the study were:

- Do athletes perceive their athletic trainers as having a role in mental preparation and mental skill development?
- Do athletes utilize their athletic trainers for mental preparation and mental skill development?
- Do athletes utilize their athletic trainers for these skills if they are injured or healthy?

**Qualitative Instrumentation.** For the qualitative portion, a moderator guide was used to help lead the discussion. This moderator guide was a general plan with topic questions and possible probing and discussion questions. The moderator guide had an introduction, and then covered five topic areas relating to the purpose of this study. The introduction discussed matters of tape-recording, confidentiality, the outline of the discussion, and courtesy in regards to respecting others opinions and not interrupting others. The first topic introduced was mental preparation. This section of the discussion explored what the athletes do to mentally prepare for competition. The second section discussed mental skills such as what mental skills are important for competition, etc. The third section focused on mental skill development, such as who taught the participants mental skills and where they practice these skills. Finally, the fourth section discussed the ATC’s role in mental preparation and mental skill development. It was important for the flow of the focus groups to begin by exploring athletes’ use of mental skills, and where they learn and practice these skills before discussing the roles of the athletic trainers in this process. First, if the athletes did not engage in mental skills training, they may not realize their athletic trainers’ possible roles. Second, if the athletes did engage in mental skills training, it is possible they never made a connection between their athletic trainers and their personal mental skill development. Finally, it was deemed beneficial to utilize examples given during discussions of mental preparation and mental skill development to make connections with their time spent with ATCs.

Validity and reliability for the focus groups were ensured with several methods. Descriptive validity was established by investigator triangulation. First, an assistant was used during several focus group interviews, and notes were compared post-interview, as well as discussed. Second, transcriptions
were analyzed by the lead author and co-investigators, which also helped to establish theoretical validity. Interpretive validity was established by the utilization of low interference descriptors (audio equipment) that allowed for verbatim transcriptions so direct quotes could be used. Internal validity was supported by interviewing athletes of varying age, gender, sport and competitive level of institutions, and examining congruencies and incongruencies in responses based on these factors. The varying sports and competitive levels of institutions allowed for external validity as well.

**Data collection procedure.** Permission was obtained from university athletic directors to speak to coaches about this study. The study was described to coaches and permission was granted to visit a practice or a team meeting. At the practice or team meeting, the study was described to athletes, and if they were interested, they provided their contact information to schedule a focus group interview.

At the focus group interviews, informed consent was described as well as the format of the focus group and issues of confidentiality and audio equipment. Participants were provided with an opportunity to ask questions before beginning. The moderator guide was used to guide the focus group interviews.

**Qualitative Analyses.** Focus group interviews were conducted on college athletes in groups of 4-8. The focus group interviews were transcribed verbatim, and participant names were changed to maintain confidentiality. A five-step analysis process was utilized to analyze the focus groups. The first step was to identify the big ideas, which begins during the focus group by observing body language, choice of words, as well as common themes and notes taken. The big ideas were used to guide the following analyses, but were modified as needed. Second, the data was unitized, or broken down into units. These units were direct quotations related to the purpose of the study. Third the units were categorized or grouped by relatedness. Fourth, the categories were negotiated by relationships; some categories stood alone while others were collapsed due to interpretation of the quotes. Finally, themes were identified from the categories.

**Qualitative Results**

For the results of the qualitative portion of this study, three themes emerged from the findings that explained the athlete’s perceptions of, and experience with, athletic trainers and their role in mental skill development and mental preparation. All themes related to the athlete’s relationship with the athletic trainer, and were 1) amount of interaction with athletic trainers, 2) participate in high vs. low risk sport, and 3) athletic trainers go beyond their job descriptions. These themes are explained below and supported with participants’ quotes (see Figure 1 for a visual representation of the themes and subthemes). Again, pseudonyms are used to protect the participants’ identities.
**Relationship with ATC.** Andrew, a DI baseball player, described the roles of the athletic trainer as dependent upon individual athletic trainers and their personalities when he said “...I would say it all varies with each individual athletic trainer, he can make – with each trainer, their role changes, I mean depending on them, depending on your relationship with them like it can be as little as okay I need you to get me healthy and he does it or it can be as much as – you know someway, I guess an advice giver or a mentor I guess, so it just depends.”

**Amount of Interaction with ATC.** Maria, a synchronized skater, described how athletes that go to the athletic training room more often get to know the athletic trainer better, “you know if you are one of the people who can go in and get more help, you can see them more often, on more than like just a professional level.” The amount of interaction an athlete has with their athletic trainer is influenced by whether the athlete has been injured, whether the athlete goes to the athletic training room, and if the athletic trainer’s presence makes the athlete worry less.

The most common reason an athlete will come to see an athletic trainer is if the athlete is injured, as Jenny, a women’s soccer player pointed out, “I think that that if you’re hurt they do have a role [in mental preparation and mental skill development] just because they want you to get better but if you’re not injured I don’t really think that they do.” John, a men’s soccer player pointed out the athletic trainer should understand psychology of injury and be able to positively influence that side of rehabilitation, “well if someone just has like broken a leg before and I know that they have like some kind of – is that athletic psychology or something like that. I think and they should kind of have some experience with that so they – an athlete can have an easier transition back into their sport when they have had a serious injury.”

Mel, a women’s soccer player, described the comfort found in having the athletic trainer describe their injury and track the athletes improvement “being an athlete you do see that in the athletic trainers that are working with you and that was a big one for me like wow I didn’t realize how much seriously mentally the athletic trainer was there for me. More than just physically it was like constantly telling me what was wrong, it’s going to be ok and trying to find stuff out for me and stuff like so. It’s all about developing that relationship I think.”

Often times, athletes will come to the athletic training room if they are not injured, or after they have fully recovered. Many athletes described this as part of their mental preparation routine. Andrew, a baseball player, described how this habit can become a superstition and a necessary part of preparing for a game, “so yeah, I mean if - for instance if I go out my first game, the athletic trainer will give me a rock and he will tape my ankle and give me a handshake, that’s probably what I will do every single
Jim, a men’s soccer player, described it as a psychological step to making an athlete feel ready to play “I think it’s kind of a psychological thing going into the training room because I know like when I went in and I got heat and they stretched me and stuff that I knew I am going to be fine and then there are a couple of games where we didn’t go to the training room before and like I kind of psyched myself out like man, I’m not going to be able to play.”

An interesting factor that came out in the interviews was that the presence of the athletic trainer makes the athlete worry less, especially if they are returning from or playing through injury. Alan, a baseball player, described playing with shoulder pain, and the athletic trainer lessening that worry, “yeah, it is just during the game, you kind of lose getting worried about your arm because he is worrying about it, you know he is like okay there is a heat pack on the bench, you know in between innings and you know maybe sometimes you don’t go straight to put it on, like he will be there and you know put it on you.”

Tim, a men’s soccer player, described the presence of the athletic trainer as a confidence booster to their performance, “I think that sometimes athletic trainers bring sort of confidence to people because like having those people there for you all the time and knowing that they want to take care of you and stuff makes you feel like you are kind of special and it could bring like another aspect to your game that you never really had in high school and like club soccer or something like that. That makes you like have confidence.”

Joe, another men’s soccer player, also described the presence of the athletic trainer as a confidence booster in providing information about returning from injury. “But like the athletic trainers, I think we just felt better to have them to be able to tell you like all your – like they will be able to know that your legs are looking better. They like doing tests and stuff if you want to like feel if they are better and it kind of gives you confidence to get back up to playing potential again.”

High or Low Risk Sport. The second theme that emerged and influences the relationship between athletes and athletic trainers was the type of sport the athlete plays. The athletes interviewed that participate in high risk sports such as football, soccer and baseball, had little difficulty talking about their athletic trainer and their interactions with their athletic trainer. The low risk sports included swimming and synchronized skating, and these athletes had a difficult time describing interactions with their athletic trainers. The synchronized skater had originally confused athletic trainers with strength and conditioning coaches. When asked what she does with the athletic trainer, she responded “as a
team, there is usually a warm up, like stretches and that kind of thing, a group stretching and then – it varies from – we do cycles of about three weeks here. So like every three weeks you will switch maybe exercises every often, you know,” when asked if she was describing athletic trainers or strength and conditioning coaches, she responded “yeah they are all the same.”

The swimmers were familiar with athletic trainers; some interviewed were even athletic training students. They were very vocal, however, about feeling they were treated poorly in the athletic training room and by the athletic trainers, especially compared to other sports. Shelly described an experience where she was preparing for a meet in the athletic training room before football prepared for their game, “Last Saturday before our meet I went down to the training room a little early to heat up and they said we could have the first four tables...because football hadn’t come in and [the head athletic trainer] said don’t be offended if I ask you to move when the football players come in.” Tyler feels he is treated as though he is a burden “Which is annoying for me I guess, I go in there every day and get my knee wrapped and I have been doing this for a month or a month and a half and still every time I go, I kind of feel like I don’t belong and I am just kind of – I am a burden to them, does that make sense? They don’t really care, it seems like – because I walk in and you know some people look through me and then you know go to someone else, like – and that kind of takes two minutes, but it takes more time, but I shall say basing the sports is more important to them, I just don’t feel like they want me there.”

Danny described his frustration with the athletic training students “I have heard some people who are AT students and you know sometimes they will complain about the work load or something and one of the big complaints that they have is like, oh I am only here to call 911 or something if somebody gets hurt, otherwise I am not doing anything, you know which is narrow minded and dogmatic, but I mean from my point of view.”

**Whether the Athlete Perceives the Athletic Trainer as Going beyond their Job Description.** The third theme that emerged and influences the athlete’s relationship with their athletic trainer was whether they felt that the athletic trainer goes beyond what the athlete perceives to be the athletic trainer’s job. Whether the athlete perceives the athletic trainer as going beyond their job description was influenced by whether the athlete perceives the athletic trainer as spending more time than necessary with the team, or making it seem as though they want to be there with the team, if the athletic trainer was more of a friend or family member, how their presence made them feel, and the amount of moral support given by the athletic trainer. Andrew, a baseball player, described the extent of the athletic trainer’s role is dependent on what the athletic trainer wants, “I think that this all
depends on what the trainer wants to do, if they just want to like just do their job and you know get us ready and do rehab and what not or if they want to be a good friend and get to know you.”

Tammy, a women’s soccer player described an incident where she felt the athletic trainers really put in extra effort to get her the care she needed and still make it to a game, “I mean I guess this is still their official responsibility but they kinda go out of their way really to do their job. When I remember when I shut my finger in the window and it busted it open and like even the fat was coming out of it I guess. Well I remember...our junior trainer last year took one look at it and was like you need stitches and I said I don’t need stitches we are leaving for the game in 15 minutes and she said no you need stitches and they made me walk all the way over to the certified and she said ‘yeah you are going to have to go get stitches’ and I went and I got stitched up. And I was pissed—I was angry that I had to get stitches and stuff and I was like crying ‘cause I was so angry and freaking out cause I thought I was missing the game. They drove me all the way to the away game and I got there like right as the National Anthem started and I got to play. And I got in the game and I and like that made me have big respect for them.”

If the athletes feel the athletic trainer spends more time than necessary, for instance being at 6am conditioning, or if they really make it seem they want to be there with the team, the athlete will feel the athletic trainer is going “beyond the call of duty.” Alan, a baseball player, described the athletic trainer as giving up time with his family to work with the team, “I don’t really know the whole job description of being a trainer, but...you know he stays after certain hours some times, just to help us out,...sometimes he informs us about what's going to happen, even though the coaches won’t want us to know. I would say that he does go beyond whatever his job calls for, I mean he spends just as much time there as we do and you know knowing that he has a family means a lot for us.”

Tyler, a men’s soccer player and a former athletic training student, described a greater appreciation for the athletic trainers because of what they go through “but the fact that [the athletic trainers and athletic training students] go through all that, being in the training room...like cleaning the ramp and crap like that. The reason - like the fact they go through that to show that they really want to be here and take care of us and it makes us feel good. So you kind of get more of an appreciation for what they do, and for the time they spend in the training room, and at the end of season our athletic trainer comes from our practice and then have men’s basketball from nine to 12 and women’s basketball from six to nine.”

The athletes also described their athletic trainer as a friend, mentor and sometimes even a family member. Andrew, a baseball player, when asked what he likes about his athletic trainer, said
“being personable, I mean I know ... we have a hard time outside of baseball and I think we go to talk to him, he gave us his best advices, best input...He is a good uncle, I would say... Yeah absolutely. How he would he give us this advice.”

Andy, a men’s soccer player, described a time he regrets not following up with his athletic trainer after an injury, “I went to the hospital, somehow I guess the athletic trainer didn’t know I was okay and went back to my apartment and like the next day she told me she couldn’t sleep and I felt terrible that night. She couldn’t sleep - she is a part of our team because she wins and loses with us. So I mean she is just as important as the coach, I think. She is our mommy. She thinks about us all the time... I think they are always like our mom, she is just taking care of us and kind of just talking to us.”

Similar to in the subtheme of “the amount of interaction between the athlete and the athletic trainer,” the athletic trainer’s presence makes the athletes worry less. Tina, a women’s soccer player described the athletic trainer’s reducing the apprehension and anxiety of returning to play after injury, “they helped me out with like not being afraid to come back and play like I was already like I’m ready but strength wise I wasn’t afraid to like go and tackle and like they helped me out.” Jenny, another women’s soccer player described confidence in knowing the athletic trainer was present, “I feel easier knowing if something happened to someone then they’re there to take care of them and I that gives me more confidence.”

Finally, the athletic trainer helped the athletes by providing moral support to the athletes. Maria, a synchronized skater, described the athletic trainer as being present for moral support, “I mean they are there for like moral support too, I mean you know that you can talk to them as really friendly ... can know them better, more than like just a professional level.”

Alan, a baseball player, when asked the most important thing the athletic trainer does for him, said “a smiling face. Because alright coaches aren’t real personable, say least, so – they are getting there, but just kind of nice to go and see him and he just joke around with you and just kind of make you relax...I would say, it’s just like having another guy on your side...Yeah – I guess he is kind of a fan of all of us, as well as the trainer.”

Andrew, another baseball player, described his athletic trainer caring about the team, “as baseball players we love baseball and we want to be there, you know our coaches love baseball and they want to coach, you know I think if a athletic trainer just – you know they love athletic training, but not maybe the sport or anything like that, you know care about being there and if he kind of take it on a personal side sometimes, I think it rubs off, you know on the team that you are with and like yeah this person cares about me.”
Joe, a men’s soccer player, described the athletic trainer’s presence and role in supporting the team, “I think just being there is important because like now she really support us; she really want us to be better and she does all she can even though half the time she really can’t do anything about it. But just being there and supportive is nice having, and it’s pretty cool like she knows us on a personal level and knows like what we can and cannot do and stuff like that.”

**STUDY 2: COLLEGIATE ATHLETIC TRAINERS**

**Quantitative Study Participants.** Athletic trainers in a college setting were selected for this study. With the help of the NATA Research and Education Foundation, a random sample of 911 athletic trainers working in college settings from NATA District 4 was identified. These athletic trainers received emails with a link to the online survey. Of the 911, 29% (n=260) responded to the survey.

The study population was 46% (n=120) female and 53% (n=137) male. The population was predominantly Caucasian (94% n=244), and non-Hispanic (96% n=250) non-Hispanic. Other races and ethnicities represented were Hispanic 1% (n=3), American Indian or Alaskan Native (0.5% (n=1), Asian or Asian American 1% (n=3), and Black, African American or Haitian 1% (n=3).

Most of the athletic trainers surveyed held Master’s degrees, 76% (n=198), while 7% (n=18) held Doctoral degrees, and 16% (n=41) held a Bachelor’s degrees. Athletic trainers surveyed have been certified 11.71 ± 9.38 years, ranging from 1 year to 55 years. Years working in a college setting ranged from 0-46 years, averaging 9.9 ± 8.86 years.

About half (49%, n=128) of the athletic trainers surveyed worked at colleges with an Athletic Training Education Program. The competitive levels of the institutions were 32% (n=82) NCAA Division I, 14% (n=35) NCAA Division II, 28% (n=72) NCAA Division 3, 15% (n=38) NAIA and 6% (n=15) worked at an institution with a different competitive level. Just over half (52%, n=136) stated their primary roles at their institutions was clinical work, 11% (n=28) had a primarily educational role, while 30% (n=78) had a combined clinical and education roles at their institutions.

Most of the athletic trainers surveyed supervised more than one team; 10% (n=25) did not supervise any athletic teams, 10% (n=27) supervised one athletic team, 19% (n=49) supervised two athletic teams, 13% (n=33) supervised three athletic teams, 10% (n=26) supervised four athletic teams, and 30% (n=79) supervised five or more athletic teams.

**Quantitative Research Design.** A quantitative survey was used to examine ATC’s perceptions of their utilization of mental skill development strategies. The main research questions for this portion of the study were:
• Do ATC’s perceive they have a role in mental preparation and mental skill development of athletes?
• To what extent do ATC’s utilize mental skills and counseling techniques with athletes? Does this change with injury status?
• Do ATC’s perceive they are qualified to teach mental skills to athletes?

Quantitative Instrumentation. An online questionnaire was emailed to collegiate ATCs in NATA District 4 (Great Lakes region). The survey followed a table of specifications (ToS), which is an outline used to develop a survey, guide the development of specific items, and establish criterion validity. A ToS consists of main topic and subtopic areas which are related to the research questions or hypotheses. The questions written for a survey should fit into a topic or subtopic of the ToS. For this study, the first section of the ToS was demographics (Section A). The demographic variables for this study included years certified, highest degree completed, additional certifications (open-ended), gender, years working in college setting, number of teams with which the ATCs works directly, main role within the institution (clinical, educational or both), whether the institution has an Athletic Training Education Program, typical job responsibilities (open-ended), and a space to attach job descriptions if available.

The second section (Section B) included 16 questions. The stem, or main topic sentence, for each of the 16 questions was the same: “In regards to time spent working with injured athletes, or athletes recovering from injury, please rate the frequency in which you utilize the following roles and skills.” Each of the 16 questions used the same Likert-type response options. These response options ranged from Rarely (0-20% of the time), Not Very Often (21-40% of the time), Sometimes (41-60% of the time), Often (61-80% of the time) and Very Often (81-100% of the time). These responses were coded as having values ranging from 1-5, respectively. The first four questions measured the ATC’s perceptions of their roles as counselors as adapted from an open-ended survey of ATCs.

The following twelve questions were adapted from the subscales of the Ottawa Mental Skills Assessment Tool-3 (OMSAT-3). The OMSAT-3 has 12 mental skills scales including 85 total questions. These twelve mental skills scales can be divided into three categories; foundation skills, including goal setting, confidence and commitment; psychosomatic skills, including stress reactions, fear control, relaxation and activation; and cognitive skills; including imagery, mental practice, focusing, re-focusing, and competition planning. These were adapted for this study by using only a single item representing each of the twelve mental skills assessed by the OMSAT-3. The OMSAT-3 is a considered a valid instrument with alpha levels > 0.78, and test-retest reliability levels > 0.63.
The third section (Section C) included identical questions to those in Section B, with a change in the stem, or opening line. Instead of measuring time with injured athletes, this stem read “In regards to time spent working with non-injured athletes, not as a part of rehabilitation from injury, please rate the frequency in which you utilize the following roles and skills.” This advances this study past the injury-context-only limitations of previous studies, and allows for comparison of time spent teaching mental skills to injured athletes and to non-injured athletes.

The fourth section of the ToS (Section D) included three Likert-type questions ranging from strongly disagree to strongly agree (1-5, respectively). This section assessed whether ATCs believed athletes prefer to learn and practice mental skills with an ATC, whether developing mental skills and mentally preparing athletes is a role of the athletic trainer, and perceptions of qualifications, as adapted from a survey of ATCs and psychology of injury.7

The final section of the ToS (Section E) included three open-ended questions to assess ATCs’ education, continuing education, and recommended education for future ATCs.7 The survey developed for and used in the study was subjected to expert review by collegiate athletic trainers, prior to main data collection. Based on these results, modifications to grammar and syntax were made. Sections B and C, the counseling and mental skills sections, were subjected to a Q sort by three graduate students to examine the content validity of the subscales. The Q sort team found the subscales to have content validity after individual work and group discussion.

The means for these subscales and items are presented in Table 1 (Injured athletes) and Table 2 (Non-injured athletes). All alpha levels were above 0.73, with the exception of one, which was 0.66, representing utilization of psychosomatic skills with injured athletes. I felt this was still a strong enough value to remain as a scale in the study, while the rest are above minimum acceptable standards.8

Quantitative Data Collection Procedures. The NATA Research and Education Foundation was utilized to assist in the quantitative portion of the study. ATC’s that chose to complete the survey did so online. The online survey program utilized for this study was Checkbox v.4.6.2.18. Their responses were stored on a secure site until they were exported to a secure file in SPSS v.18.0.

Quantitative Analyses. Descriptive data was used to examine perceptions of the role of athletic trainers in mental skill development. Independent t-tests were utilized to examine group differences between injury stem and non-injury stem questions regarding counseling and mental skill development. ANOVAs were utilized to examine group differences in demographic variables with counseling and mental skill development.

Quantitative Results
Question 1: Do ATC’s perceive they have a role in mental preparation and mental skill development of athletes?  While only 48 (22%) of athletic trainers surveyed felt athletes prefer to learn mental skills from the athletic trainer over other professionals, 98 (45%) believed that mental skill development and mental preparation are roles of the athletic trainer.  In addition, women (2.06±0.705) ranked higher than men (1.82±0.687) in the belief that athletes prefer to learn mental skills from athletic trainers \((F_{1,211}=6.196, p<0.01)\).  There were also significant differences based on years working in a college setting.  Athletic trainers who had worked in a college setting 0-5 years (2.05±0.714) were more likely to perceive that athletes prefer to learn mental skills from an athletic trainer, as compared to athletic trainers who had worked in a college setting 5.1-10 years (1.94±0.718), 10.1-20 years (1.81±0.670) and over 20 years (1.58±0.654); \((F_{3,193}=3.112, p<0.03)\).  Women (2.36±0.729) ranked higher in the belief that mental preparation and mental skill development are a role of the ATC than men (2.14±0.805), \((F_{1,217}=4.465, p<0.04)\).

Question 2: To what extent do ATC’s utilize mental skills and counseling techniques with athletes?  Does this change with injury status?  The extent of ATC’s utilization of counseling and mental skills techniques depends on the type of skill and whether the athlete is injured or rehabilitating from injury, or not.  With injured athletes, ATCs reported utilizing counseling skills sometimes or often (3.32±0.860), with 66.5% (n=151) of the ATCs reported utilizing counseling skills often or very often.  Foundation skills were also utilized sometimes or often (3.31±0.998), with 60.0% (n=135) reporting utilizing foundation skills often or very often.  Psychosomatic skills were utilized not very often or sometimes (2.45±0.849) with 64.8% (n=142) reported utilizing these skills rarely or not very often.  Cognitive skills were utilized rarely or not very often (1.95±0.913), with 79.6% (n-183) reporting utilizing these skills rarely or not very often.

Regarding non-injured athletes, ATCs utilized counseling skills not very often or sometimes (2.80±1.007), with 50.7% (n=110) reporting utilizing counseling skills rarely or not very often.  Foundation skills were also utilized not very often or sometimes, (2.27±1.024), with 70.5% reporting utilizing these skills rarely or not very often.  Psychosomatic skills were utilized rarely or not very often (1.91±0.853), with 83% (n=183) reporting utilizing these skills rarely or not very often.  Cognitive skills were also utilized rarely or not very often (1.61±0.793), with 89.9% (n=196) reporting utilizing these skills rarely or not very often.

There are significant differences present in the utilization of mental skills and counseling skills with athletes based on injury status.  Paired samples t-tests were used to examine the differences between responses to injury-stem questions and non-injury stem questions, and ATC’s utilized these
skills to a greater extent with injured athletes and athletes recovering from injury, as compared to non-
injured athletes. Athletic trainers reported utilizing counseling skills (counselor, listener, assisting with 
pregame routine) with injured athletes (3.31±0.870) more so than with non-injured athletes 
(2.81±1.004), (t_{213}= 9.842, p=0.000). ATCs also reported utilizing foundation skills (goal setting, 
confidence and positive commitments) with injured athletes (3.32±1.015) more so than with non-
injured athletes (2.27±1.033), (t_{214}=16.134, p=0.000). Psychosomatic skills (relaxation, fear and anxiety 
management, and energizing) were utilized more with injured athletes (2.44±0.858) than with non-
injured athletes (1.904±0.832), (t_{207}=11.906, p=0.000). Finally, cognitive skills (focus, imagery, mental 
preparation and mental skill practice) were utilized more often with injured athletes (1.94±0.903) than 
with non-injured athletes (1.61±0.793), (t_{217}=9.225, p≤0.001).

Question 3: Do ATC’s perceive they are qualified to teach mental skills to athletes? Of the 119 
athletic trainers responding to this question, 46 (38.7%) did not feel they were qualified to teach mental 
skills, while 38 (31.9%) feel they were qualified to teach these skills. When asked what part of their 
professional education (undergraduate or graduate coursework/experiences) prepared them to teach 
mental skills, 53 (22%) said psychology courses, 42 (17%) said sport psychology courses, 27 (11%) said it 
was part of their rehabilitation or practicum courses, 9 (4%) chose to specialize or minor in psychology, 
14 (6%) received this experience in external rotations and/or internships, 14 (6%) stated it was from 
personal experience, 15 (6%) received this education during in-house clinical experiences, 9 (4%) took 
coaching courses, 35 (14%) said it was part of their graduate coursework, and 26 (11%) said it was not 
covered in their professional education.

When asked what continuing education opportunities they have pursued after professional 
education, 5(3%) have attended workshops for mental skills, 43 (27%) have attended symposia and 
lectures where this was one of the available topics, 82 (52%) have not pursued any continuing education 
in the area, 11 (7%) took graduate coursework in the area, 7 (4%) read journal articles in the area, 1 (1%) 
received an additional certification, 2 (1%) utilized personal experiences, and 8 (5%) worked directly 
with a sport psychology consultant for more experience. Regarding recommendations for future athletic 
training students and programs, 41 (24%) recommended a sport psychology class, 22 (13%) 
recommended a psychosocial intervention/psychology of injury course, and 36 (21%) recommended 
rotations with a sport psychology consultant, and 6 (3%) did not feel this should be an emphasis in 
entry-level education.

**DISCUSSION**
The purposes of this study were to examine whether college athletes and collegiate athletic trainers perceived athletic trainers have a role in mental preparation and mental skill development. Psychosocial Intervention and Referral (PSIR) as a competency has grown in recent years. As a result, it has become a more prominent topic in undergraduate education, and students have more proficiency to complete relating to PSIR.\textsuperscript{1} 

**Athlete’s Perceptions of the ATCs Role in Mental Preparation and Mental Skill Development**

This study found the athlete’s perception of the role of the ATC in mental preparation and mental skill development to be dependent upon the athlete’s relationship with the ATC. This relationship is dependent upon the amount of time the athlete spends with the athletic trainer, whether the athlete is in a high or low risk sport, and whether the athlete perceives the ATC as going beyond their job description to care for them. The amount of time spent with the ATC depends on whether the athlete has been injured, whether they go to the athletic training room often, and whether the ATCs presence makes the athlete worry less. Most psychological interventions led by the athletic trainer that are geared for the athlete are related to preventing, minimizing the effects of, or increasing the results of rehabilitation from injury.\textsuperscript{3,17} A guideline has been developed for ATCs to direct psychological interventions with injured athletes.\textsuperscript{3} If athletes have positive perceptions of social support from the athletic trainer, the athlete may have more positive beliefs (or “buy in”) regarding rehabilitations and the outcomes of rehabilitation.\textsuperscript{18} Also, athletes that perceive more social support from the ATC pre and post injury increases athletes’ efforts to recover from injury.\textsuperscript{13}

As ATCs, we are called to treat all athletes equally, as part of our ethical code.\textsuperscript{19} While we strive not to neglect any athlete, athletes perceive differences in their treatment based on their sport participation. In a study examining collegiate athlete’s satisfaction with athletic trainers, high profile sport athletes have more satisfaction and positive interaction with ATCs than low profile sport athletes.\textsuperscript{20} There is a similar finding in our study: athletes in low risk sport athletes felt they were treated poorly, or were treated as a burden on ATCs, and therefore has less interaction with ATCs and were not likely to perceive the ATC as having a role in mental preparation or mental skill development. High risk sport athletes reported more interaction with the ATC, and more positive interactions with ATCs. This increased the likelihood that their ATC has a role in mental preparation and mental skill development.

ATC’s have many roles that may fall within or outside of our job description. ATCs often adopt roles outside the traditional roles of orthopedic care, such as psychological skill development, or counseling\textsuperscript{21}. It is unlikely that athletes fully understand the roles or job description of ATCs, but they do
perceive that the ATC goes beyond their job description. When they perceive this, they get the sense the ATC really cares about them and wants them to succeed, which increases the likelihood that they perceive the ATC as having a role in mental preparation and mental skill development. Ways athletes may perceive the ATC as going beyond their job description include spending more time than what seems necessary, or really demonstrating they want to be there with the team, the ATC acting as a friend or family member to the athlete, whether the ATCs presence makes them worry less, and whether the ATC provides moral or social support. Athletes that perceive ATCs as providing moral or social support are more likely to buy in to rehabilitation programs, and recover more fully from injury.13,18

Athletic Trainer’s Role in Mental Preparation and Mental Skill Development

Psychology and counseling has been described as a universal competency in athletic training.11 Only 25% of NCAA schools have sport psychologists on staff, so in the remaining schools, the responsibility of counseling and referring athletes falls on ATCs.7 Most recent graduates, however, do not feel comfortable assisting psychological issues presented by athletes.1

In this study, 45% of collegiate ATCs agreed that mental preparation and mental skill development are the role of the athletic trainer. Also in this study, the fewer years an ATC has been working in the college setting, the more the ATC believed the athletes prefer to learn mental skills from the ATC. In more recent years, athletic training education has become more structured and standardized with the Role Delineation Study.12 A recent study examining recent graduates educational preparation with counseling found recent grads are comfortable with interpersonal skills, but are not comfortable engaging in athlete-centered counseling tasks, such as motivation, counseling, and mental skills.4

ATCs Utilization of Mental Skills and Counseling Techniques and the Impact of Athlete’s Injury Status

Again, counseling has been described as a universal competency in athletic training.11 An open ended survey was sent to athletic trainers to determine areas in which athletic trainers counsel most. The top five self-reported roles of the collegiate ATC included educator, injury advisor, nutritionist, counselor and problem solver. In these roles, more than 70% of ATCs reported athletes expressing concerns regarding conflicts with coach or players, health-related concerns, career decisions, sexually transmitted diseases, injury mechanisms, sport enhancement, sport demands, and rehabilitation protocols. This illustrates how comfortable athletes feel with communicating with their ATCs.11 This is consistent with our study: of the ATCs surveyed in this study, about 67% reported utilizing counseling often or very often (60% or more of the time) with injured athletes as compared to about 38% reporting
often or very often with non-injured athletes. Having a role as a counselor with injured athletes was utilized often or very often by 43% of the ATCs surveyed as opposed to about 30% reporting often or very often with non-injured athletes.

Role as a listener with injured athletes was utilized often or very often by almost 80% of ATCs surveyed, while about 57% reported often or very often with non-injured athletes. This is similar to a finding in a study examining perceived social support from athletic trainers, coaches and assistant coaches for athletes pre and post injury. Athletes perceived greater social support, more specifically listening support, from athletic trainers than from coaches or assistant coaches.\textsuperscript{13}

Athletic trainers surveyed reported having a great role in athlete’s pregame routine with both injured and non-injured athletes: about 71% reported having this role often or very often with injured athletes, and about 52% reported having this role often or very often with non-injured athletes. Foundation skills as mental skills are comprised of goal setting, self-confidence, and positive commitments (sustained intensity and dedication toward achieving desired goals).
\textsuperscript{6} Of the ATCs surveyed, 60% reported having roles in foundation skills with injured athletes often or very often.

Building confidence in returning to play after injury is considered part of rehabilitating an athlete from injury.\textsuperscript{3} Boosting confidence of a team or individuals was described as a role of certain strength and conditioning coaches. In a qualitative study of several strength and conditioning coaches (CSCS), their role in building confidence and other mental skills varied based on the individual CSCS’s role within the athletic department, and with that team.\textsuperscript{14} In our study, about 56% of ATCs reported boosting confidence in injured athletes often or very often.

Injury rehabilitation involves more structured mental skills interventions to boost the recovery of athletes. In a study examining goal setting strategies and interventions in rehabilitation from injury, it has been demonstrated intervention efforts aim to keep focus on positive commitments and achieving goals.\textsuperscript{15} Encouraging athletes to maintain positive commitments is reported to be utilized often or very often with injured athletes with 61% of the ATCs surveyed in our study.

Athletic trainers specialize in preventing, evaluating and treating athletic injuries. Most of the research involving athletic trainers and psychological skills training is focused on interventions with injured athletes. Athletic trainers believe psychological skills are effective in enhancing motivation to adhere to rehabilitation protocols and return to play, and enhance the outcomes of injury rehabilitation.\textsuperscript{16} Guidelines have been developed to assist athletic trainers in influencing the psychosocial aspects of injury.\textsuperscript{3} All counseling and mental skills techniques were utilized more often
with injured athletes than non-injured athletes, which is consistent with the assumptions of previous research.\textsuperscript{3,5,2}

**ATCs Perceptions of Qualifications to Teach Mental Skills and Utilize Counseling Techniques**

There have been several studies examining ATC’s educational preparation or perceptions of qualifications regarding counseling. In a review of related literature, one study concluded counseling is a universal competency in athletic training, but ATCs need more training in this area\textsuperscript{11}. In interviews of recently certified athletic trainers educational preparation, ATCs are comfortable with interpersonal skills related to counseling, but not comfortable with athlete-centered tasks, such as increasing motivation, counseling, and mental skill development\textsuperscript{1}. Similarly, in an open-ended survey, ATCs reported feeling comfortable discussing personal issues with athletes, but were concerned about training in providing appropriate professional responses. Only five of the fourteen felt they received adequate training in counseling. In our current study, only 31% of ATCs surveyed feel they are qualified to counsel athletes, or teach mental skills to athletes.

During the interview of recently certified ATCs, the researchers asked what prepared them for teaching mental skills or conducting psychosocial interventions. Four of the eleven ATCs interviewed reported having a separate sport psychology course. Similarly, in our study, the most common responses to what part of undergraduate education prepared them for teaching mental skills were general psychology courses or sport psychology courses. Very few reported simulations, or working with a sport psychology consultant. The most common responses in regards to continuing education pursued since certification were clinical symposia (general symposia with some session on psychology), and none (no continuing education opportunities have been pursued since certification). Also in this study, ATCs surveyed made recommendations for future ATS’ or programs to offer sport psychology courses or rotations with sport psychology consultants.

**CONCLUSIONS AND IMPLICATIONS**

This study demonstrated that many athletic trainers feel they have a role in mental preparation and mental skill development of athletes. This is more prevalent with counseling skills and foundation skills as compared to psychosomatic skills and cognitive skills\textsuperscript{5}. These roles are also more prevalent with injured athletes, though the ATC does have limited roles in mental preparation and mental skill development with non-injured athletes.

Athletic trainers need more training and education in psychological skills and interventions to increase knowledge and comfort in utilizing and teaching these skills. While ATCs did not utilize psychosomatic or cognitive skills with athletes, they could benefit athletes and their progress in
rehabilitation from injury by utilizing and enhancing athlete's use of these skills more. ATCs reported a variety of ways they were exposed to psychological aspects of athletic training, ranging from none, to embedded in coursework, to separate courses, to rotations with sport psychology consultants, with sport psychology courses being the most prevalent response.

Athletes do perceive the ATC as having a role in mental preparation and mental skill development if the athlete has a positive relationship with the athletic trainer. If athletes do not perceive themselves as having a positive relationship with their athletic trainer, they are not likely to believe their athletic trainer has this role. This could reflect on the ATC, and how personable he or she is being with the athletes. For example, low profile sport athletes do not have positive perceptions of their athletic trainers, which is a great area of improvement for ATCs (or an area we are currently neglecting).

Limitations and Future Directions for Research

This study had a small sample size but was able to obtain a 29% response rate with an online survey from a random sampling of athletic trainers. This study relied had several measures in place to maintain the validity of the self-report data.

This study utilized a random sample of ATCs from NATA District 4, and a convenience sample of athletes from two institutions within NATA District 4. A future direction for research would be to compare athletes' perceptions to athletic trainers' perceptions from the same institution. Another future direction would be to provide vignettes or video clips of athletic trainers providing psychological skills training, and have athletes and ATCs rate the credibility of the ATC providing those skills. Also, limiting the sample to clinical athletic trainers, not educational or combined role athletic trainers may provide different results.

Another area of research, which is possibly a part of the Role Delineation Study, is how much does an ATC have to perform or utilize a specific skill or duty for that to be a significant portion of their job. This could have an impact on what results were significant in this study, and how future studies could be framed.

Acknowledgements

I would like to thank the NATA Research and Education Foundation for assisting in gathering a sample of ATCs from NATA District 4. I would also like to thank the athletes that participated in the focus group interviews. In addition, I would like to thank my classmates and a former professor that assisted in the validation of my survey.
REFERENCES


**LEGENDS AND FIGURES**

Table 1: Counseling and Mental Skills utilized with Injured Athletes

<table>
<thead>
<tr>
<th>Scale</th>
<th>Item</th>
<th>Mean ± SD&lt;sup&gt;a&lt;/sup&gt;</th>
<th>40% of the time or below</th>
<th>61% of the time of above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counseling Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor</td>
<td></td>
<td>3.16 ± 1.175</td>
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<td>99(43.0)</td>
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<td>Listener</td>
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<td>4.14 ± 1.058</td>
<td>20(8.7)</td>
<td>183(79.6)</td>
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<tr>
<td>Pregame Routine</td>
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<td>3.91 ± 1.302</td>
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<td>Time/Stress Management</td>
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<td>2.08 ± 1.035</td>
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<td>Foundation Skills Scale</td>
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<td>3.31 ± 0.998</td>
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<td>135(60.0)</td>
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<td>2.89 ± 1.272</td>
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<td>84(36.8)</td>
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<td>3.52 ± 1.082</td>
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<tr>
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<td>Fear and Anxiety</td>
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<td>Energizing</td>
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<td>2.27 ± 1.181</td>
<td>139(60.4)</td>
<td>36(15.7)</td>
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<tr>
<td>Cognitive Skills Scale</td>
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<td>1.95 ± 0.913</td>
<td>183(79.6)</td>
<td>25(10.9)</td>
</tr>
<tr>
<td>Focus</td>
<td></td>
<td>1.96 ± 1.093</td>
<td>161(70.0)</td>
<td>24(10.4)</td>
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<td>Imagery</td>
<td></td>
<td>1.91 ± 1.110</td>
<td>168(73.0)</td>
<td>29(12.6)</td>
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<td>Mental Preparation for Competition</td>
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<td>2.05 ± 1.079</td>
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<td>29(12.6)</td>
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<td>1.87 ± 1.018</td>
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<td>2.80 ± 1.007</td>
<td>110(50.7)</td>
<td>82(37.8)</td>
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<td>Mean ± SD&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>2.64 ± 1.312</td>
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<td>65(29.5)</td>
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<td>Mean ± SD&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>3.46 ± 1.349</td>
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<td>Self-Confidence</td>
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<td>Relaxation</td>
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<td>Fear and Anxiety</td>
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<td>1.95 ± 1.059</td>
<td>158(72.1)</td>
<td>22(10.0)</td>
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<td>Energizing</td>
<td></td>
<td>1.86 ± 1.053</td>
<td>166(75.5)</td>
<td>18(8.2)</td>
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<td>1.61 ± 0.793</td>
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<td>9(4.1)</td>
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<td>1.67 ± 0.942</td>
<td>180(81.8)</td>
<td>12(5.5)</td>
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<td></td>
<td>1.52 ± 0.813</td>
<td>192(87.3)</td>
<td>7(3.2)</td>
</tr>
</tbody>
</table>

<sup>a</sup> Likert scale: 1 = rarely (0-20% of the time), 5 = very often (81-100% of the time)

Table 2: Counseling and Mental Skills utilized with Non-Injured Athletes

<table>
<thead>
<tr>
<th>Scale</th>
<th>Item</th>
<th>Mean ± SD&lt;sup&gt;a&lt;/sup&gt;</th>
<th>40% of the time or below</th>
<th>61% of the time of above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counseling Scale</td>
<td></td>
<td>2.80 ± 1.007</td>
<td>110(50.7)</td>
<td>82(37.8)</td>
</tr>
<tr>
<td>Counselor</td>
<td></td>
<td>2.64 ± 1.312</td>
<td>107(48.6)</td>
<td>65(29.5)</td>
</tr>
<tr>
<td>Listener</td>
<td></td>
<td>3.46 ± 1.349</td>
<td>60(27.3)</td>
<td>125(56.8)</td>
</tr>
<tr>
<td>Pregame Routine</td>
<td></td>
<td>3.23 ± 1.535</td>
<td>74(33.9)</td>
<td>113(51.8)</td>
</tr>
<tr>
<td>Time/Stress Management</td>
<td></td>
<td>1.89 ± 1.009</td>
<td>161(73.5)</td>
<td>15(6.8)</td>
</tr>
<tr>
<td>Foundation Skills Scale</td>
<td></td>
<td>2.27 ± 1.024</td>
<td>155(70.5)</td>
<td>44(20.0)</td>
</tr>
<tr>
<td>Goal Setting</td>
<td></td>
<td>1.91 ± 1.086</td>
<td>163(74.1)</td>
<td>24(10.9)</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td></td>
<td>2.49 ± 1.199</td>
<td>197(48.6)</td>
<td>46(20.9)</td>
</tr>
<tr>
<td>Positive Commitments</td>
<td></td>
<td>2.40 ± 1.210</td>
<td>121(55.0)</td>
<td>45(20.5)</td>
</tr>
<tr>
<td>Psychosomatic Skills Scale</td>
<td></td>
<td>1.91 ± 0.853</td>
<td>183(8.0)</td>
<td>19(8.7)</td>
</tr>
<tr>
<td>Relaxation</td>
<td></td>
<td>1.69 ± 0.869</td>
<td>175(79.9)</td>
<td>6(2.7)</td>
</tr>
<tr>
<td>Fear and Anxiety</td>
<td></td>
<td>1.95 ± 1.059</td>
<td>158(72.1)</td>
<td>22(10.0)</td>
</tr>
<tr>
<td>Energizing</td>
<td></td>
<td>1.86 ± 1.053</td>
<td>166(75.5)</td>
<td>18(8.2)</td>
</tr>
<tr>
<td>Cognitive Skills Scale</td>
<td></td>
<td>1.61 ± 0.793</td>
<td>196(89.9)</td>
<td>9(4.1)</td>
</tr>
<tr>
<td>Focus</td>
<td></td>
<td>1.67 ± 0.942</td>
<td>180(81.8)</td>
<td>12(5.5)</td>
</tr>
<tr>
<td>Imagery</td>
<td></td>
<td>1.56 ± 0.878</td>
<td>187(85.4)</td>
<td>11(5.0)</td>
</tr>
<tr>
<td>Mental Preparation for Competition</td>
<td></td>
<td>1.65 ± 0.919</td>
<td>178(81.3)</td>
<td>10(4.6)</td>
</tr>
<tr>
<td>Mental Skill Practice</td>
<td></td>
<td>1.52 ± 0.813</td>
<td>192(87.3)</td>
<td>7(3.2)</td>
</tr>
</tbody>
</table>

<sup>a</sup> Likert scale: 1 = rarely (0-20% of the time), 5 = very often (81-100% of the time)
Figure 1: Influences on the athlete’s relationship with their athletic trainer

- **Amount of time spent with Athletic Trainer**
  - Whether the athlete has been injured
  - Whether the athlete goes to the ATC/athletic training room often
  - The presence of the athletic trainer makes them worry less

- **High/Low Risk Sport**
  - High risk sport has more interaction with ATC
  - Low risk sport gets more superficial coverage

- **Perception of ATC going beyond job description**
  - ATC spends more time than necessary or sacrifices personal life to be with team
  - ATC is more of a friend or family member
  - The presence of the ATC makes the athlete worry less
  - ATC provides moral support
References

Board of Certification (2004a). Athletic Training Educational Competencies. Omaha, NE.

Board of Certification (2004b). Role Delineation Study. Omaha, NE.


Appendix A

Sample email to Athletic Trainers for recruitment of Athletic Trainers to participate in this study

Dear (Athletic Trainer):

You have been asked to take part in the research project described below. The purpose of this study is to gather information from collegiate athletic trainers regarding their use of and comfort level with psychosocial skills and mental preparation with athletes. This information will prove useful as the profession of athletic training is continually striving to provide for the wellbeing of the athletes. Although every effort will be taken to ensure the confidentiality of your responses, all Internet-based communication is subject to the remote likelihood of tampering from an outside source. IP addresses will not be investigated and data will be removed from the server.

1. If you decide to take part in this study, your participation will involve completing a survey pertaining to your perceptions of your use and teaching of psychological skills and mental training techniques to athletes. Please complete the survey, it should take approximately 5-10 minutes to complete.

2. Your part in this study is anonymous. Scientific reports will be based on group data and will not identify you or any individual as being in this project.

3. The decision to participate is up to you. You do not have to participate and you can refuse to answer any question.

4. If you have questions about the study, you can contact the investigator, Kaitlyn Donohoe, 614-406-9451, donohokg@muohio.edu, or the faculty advisor Dr. Brett Massie, 513-529-8105, massiejb@muohio.edu.

5. If you have any questions or concerns about your rights as a subject, you may contact Miami University’s Office for the Advancement of Research and Scholarship, 513-529-3734, humansubjects@.muohio.edu.

Your completion of this survey implies your consent to participate in this study.

To access the survey, please click below: https://survey.muohio.edu/Checkbox/Survey.aspx?s=2e577505166748a1aa4ff3190a809aaf

If the link is not highlighted, please copy and paste it into your address window.

Thank you for your time and consideration,

Sincerely,
Kaitlyn Donohoe, ATC
Appendix B

Sample letter/email to Athletic Trainers regarding recruitment of athletes as participants

Dear (Name of Athletic Trainer),

My name is Kaitlyn Donohoe. I am a Certified Athletic Trainer, and am working to complete my Masters in Kinesiology at Miami University. I am currently working on my thesis and would like your help. I hope to interview NCAA collegiate athletes on their perceptions of the role of Athletic Trainers in mental preparation and mental skills development of athletes. I would like to conduct several focus groups of about several athletes each. I need help recruiting athletes for my study. There are a few ways this could be accomplished:

- Invite me to campus to recruit athletes for the study
- Identify coaches that would be willing to work with me in gaining access to their athletes for this study, and provide me with their contact information

Their anonymity will be protected as focus group responses will be grouped and no personal information will be used that could lead to the identification of study participants. My cell is 614-406-9451, and my email address is kaitlyn.donohoe@gmail.com. My faculty advisor Dr. Brett Massie, is also available if you have questions, 513-529-8105, massiejb@muohio.edu. Please let me know if these would be possible, or if you have a suggestion for how to recruit athletes for my study.

Thank you,

Kaitlyn
Appendix C
Informed Consent form for Athletes

Dear ________________ :

My name is Kaitlyn Donohoe and I am currently a graduate student at Miami University. I am currently working on my thesis. The purpose of my thesis is to investigate athlete’s perceptions of Athletic Trainers.

You are invited to participate in my project. I will ask you to participate in a focus group about your experiences and perceptions of the roles of Certified Athletic Trainers in caring for athletes. This interview will be audio-tape recorded and transcribed verbatim. Your name will not be associated with your responses in any way (that is, the information you provide will be used anonymously and grouped with the information of other interviews). The interview in its entirety should take approximately one hour. Your participation is voluntary and you may withdraw from the interview at any time or refuse to answer any questions that you do not wish to answer. You will not be asked to do anything that exposes you to risks beyond those of everyday life. The benefit of this project, educationally, is that it will help me learn how to do research, as well as help me understand college athlete’s perceptions of athletic trainers.

If you have further questions about this project, please contact me at (614) 406-9451 or kaitlyn.donhoe@gmail.com, or contact my faculty advisor Dr. Brett Massie, 513-529-8105 or massiejb@muohio.edu.

Thank you for your participation and for helping me out with my project. I am very grateful for your help and hope that it will be an interesting process for you. You may keep this top portion of the page.

******************************************************************************

Cut/tear at the line, keep the top section and return this bottom section.

I agree to participate in the project on perceptions of Certified Athletic Trainers. I understand my participation is voluntary and that my name will not be associated with the information I provide.

Participant’s Signature ____________________________________________________

Date ________________________________________________
Appendix D
Focus Group Topic Outline

Introduction:
Hello, my name is Kaitlyn Donohoe, I am an athletic trainer and a graduate student at Miami University. I am interested in learning your perceptions of the role of your athletic trainer. Please complete the background information sheet and informed consent form as I go over a few guidelines for the focus group.

1. This discussion will be tape-recorded.
   a. All efforts will be taken to maintain your confidentiality, and pseudonyms will be used during the analysis
   b. I will ask you to speak one at a time, if you have something to say, please wait until the previous person has finished, so as not to interfere with the tape-recording
   c. Please state your name before you begin to speak for ease in transcribing
2. I will introduce a series of topics. My goal is for you to discuss the topics amongst yourselves while I listen and take notes. I will periodically ask questions and join the discussion
3. Feel free to speak your mind on the topic. Do not worry if someone disagrees with you. I am interested in your opinions and experiences
   a. If you disagree with someone, please voice your disagreement as it will add to the discussion but avoid judging the person for their opinions and experiences, no one is wrong for their opinions and experiences
4. I would like for all of you to agree that what is said in this room does not leave this room to protect the confidentiality of this session. Again, I will use pseudonyms to protect confidentiality in my analysis.
5. Are there any questions before we begin?

Topic 1: Mental Preparation
1. What do you do to mentally get ready for competition?
   a. What is the most important part of getting ready for competition?
2. Is a specific pre-game routine important to performance?
   a. Does mental preparation have to be a rigid part of a pre-game routine?
   b. What is the best part of a mental preparation plan?
3. What goes into a mental preparation routine?
   a. What is the most important aspect of mental preparation for competition?
   b. What is the least important aspect of mental preparation for competition?

Topic 2: Mental Skills
1. What mental skills are important for competition?
   a. What mental skills are the most important for competition?
   b. What mental skills are unimportant?
   c. What mental skills do you utilize most often?
2. What do you do before or during competition when things aren’t going your way?
3. What keeps you focused before and during your competition? Throughout the season?
   a. Who helps you most with this?

Topic 3: Mental Skill Development
1. Who taught you mental skills for competition?
a. Who are you most likely to talk to about mental skills?
b. Why is it better to talk to this person vs. that person?

2. Where do you practice these skills?
   a. Where are you most likely to practice mental skills?

Topic 4: Athletic Trainer’s role

1. Do any of you spend time with your athletic trainer?
   a. What is the main reason you go to the athletic training room?
   b. Do you go to the athletic training room for any other reasons?

2. What do you think your athletic trainer’s job is?
   a. What is the main responsibility of the athletic trainer?
   b. What are other important responsibilities of the athletic trainer?
   c. Do you feel there are other responsibilities the athletic trainer should take on?

3. Does your athletic trainer have extra roles?
   a. What are the prominent extra roles your athletic trainer has?

4. Does your athletic trainer help you practice or develop mental skills?
   a. What are the most common topics of conversation in the training room?
   b. Does your athletic trainer talk to you about mental skills?

5. What does your athletic trainer do to prepare you for games?
   a. What is the most beneficial thing your athletic trainer does to prepare you for games?
   b. What else does the athletic trainer do that is helpful?
### Appendix E

**Athletic Trainers’ Survey**

<table>
<thead>
<tr>
<th>A. Demographics: Please Answer the Following Background Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Years Certified</strong></td>
</tr>
<tr>
<td><strong>2. Highest Degree Completed</strong></td>
</tr>
<tr>
<td><strong>3. Additional Certifications</strong></td>
</tr>
<tr>
<td><strong>4. Ethnicity</strong></td>
</tr>
<tr>
<td><strong>5. Race</strong></td>
</tr>
<tr>
<td><strong>6. Your Gender</strong></td>
</tr>
<tr>
<td><strong>7. Years working in college setting</strong></td>
</tr>
<tr>
<td><strong>8. Number of teams with which you directly work</strong></td>
</tr>
<tr>
<td><strong>9. Main role with institution</strong></td>
</tr>
<tr>
<td><strong>10. Does your institution have an Athletic Training Education Program?</strong></td>
</tr>
<tr>
<td><strong>11. Typical Job Responsibilities</strong></td>
</tr>
<tr>
<td><strong>12. If available, please attach your job description</strong></td>
</tr>
</tbody>
</table>

50
B. In regards to time spent working with injured athletes, or athletes recovering from injury, please rate the frequency in which you utilize the following roles and skills:

<table>
<thead>
<tr>
<th>Role/Task</th>
<th>Rarely (0-20% of the time)</th>
<th>Not Very Often (21-40% of the time)</th>
<th>Sometimes (41-60% of the time)</th>
<th>Often (61-80% of the time)</th>
<th>Very Often (81-100% of the time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I act as a counselor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I have a role as a listener</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I am a part of the athlete’s pregame routine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I teach time/stress management to athletes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I encourage or teach relaxation techniques</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I utilize goal setting strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I influence the self-confidence of athletes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I encourage positive commitments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I help athletes manage fear and anxiety related to performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I assist in activating and energizing athletes before competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I help athletes focus on appropriate stimuli during competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I facilitate re-focusing during competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I teach and encourage the use of imagery/visualization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I help athletes develop competition plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>15. I facilitate the practice of mental skills</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>16. I encourage positive self-talk with athletes</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

C. In regards to time spent working with non-injured athletes, not as a part of rehabilitation from injury, please rate the frequency in which you utilize the following roles and skills:

<table>
<thead>
<tr>
<th>Role/Task</th>
<th>Rarely (0-20% of the time)</th>
<th>Not Very Often (21-40% of the time)</th>
<th>Sometimes (41-60% of the time)</th>
<th>Often (61-80% of the time)</th>
<th>Very Often (81-100% of the time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I act as a counselor</td>
<td></td>
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<tr>
<td>2. I have a role as a listener</td>
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<td>3. I am a part of the athlete’s pregame routine</td>
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<tr>
<td>4. I encourage or teach relaxation techniques</td>
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<td></td>
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</tr>
<tr>
<td>5. I utilize goal setting strategies</td>
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</tr>
<tr>
<td>6. I influence the self-confidence of athletes</td>
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<td></td>
</tr>
<tr>
<td>7. I encourage positive commitments</td>
<td></td>
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<td></td>
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<tr>
<td>8. I help athletes manage fear and anxiety related to performance</td>
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</tr>
<tr>
<td>9. I assist in activating and energizing athletes before competition</td>
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<td></td>
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<td>12. I teach and encourage the use of imagery/visualization</td>
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<td></td>
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<td></td>
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<td>15. I teach time/stress management to athletes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I encourage positive self-talk with athletes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### D. Please rate the following statements

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Athletes prefer to learn and develop mental skills from me, the athletic trainer, more than other mental training professionals available to them.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Developing mental skills in athletes is one of my roles as an athletic trainer.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. I feel I am qualified to teach mental skills to athletes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### E. Please fill in the following:

1. What part of your professional education (college coursework and clinical rotations) prepared you to teach mental skills to athletes?  

2. What types of continuing education opportunities have you pursued to learn more about teaching mental skills to athletes?  

3. What coursework and/or clinical rotations could be offered to athletic training students to improve the knowledge and teaching of mental skills to athletes?
Appendix F

Table of Specifications

<table>
<thead>
<tr>
<th>Category</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Demographics: nominal and ordinal responses</td>
<td>A 1-10</td>
</tr>
<tr>
<td>B. Injury Stem: frequency likert responses</td>
<td></td>
</tr>
<tr>
<td>Counseling (Based on Moulton et.al., 1997)</td>
<td>B 1-4</td>
</tr>
<tr>
<td>Mental Skills (Based on OMSAT-3)</td>
<td>B 5-16</td>
</tr>
<tr>
<td>C. Non-injury Stem: frequency likert responses</td>
<td></td>
</tr>
<tr>
<td>Counseling (Based on Moulton et.al., 1997)</td>
<td>C 1-4</td>
</tr>
<tr>
<td>Mental Skills (Based on OMSAT-3)</td>
<td>C 5-16</td>
</tr>
<tr>
<td>D. Perceptions of Qualifications (Based on Larson, et.al., 1996): agreement likert responses</td>
<td>D 1-3</td>
</tr>
<tr>
<td>E. ATCs Education and Recommendations for future ATCs (Based on Larson, et.al., 1996): open ended</td>
<td>E 1-3</td>
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</tbody>
</table>