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An Exploration of the Concept of Athletic Identity Among Athletic Trainers

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A thesis submitted to the Sport, Recreation, & Exercise Sciences Faculty of Lindenwood University in partial fulfilment of the requirement for the degree of

Master of Science

School of Sport, Recreation, & Exercise Sciences

DECLARATION OF ORIGINALITY

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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This thesis has been approved as partial fulfilment of the requirement for the degree of Master of

Science at Lindenwood University by School of Sport, Recreation, & Exercise Sciences.

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III

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Abstract

The purpose of this research study is to develop an understanding of how athletic trainers identify themselves in a vocational context. Additionally, this research is designed to explore perceptions of self-confidence, competence, and what attitudes athletic trainers have towards the practice of sport psychology within their professional field. Athletic trainers are often looked at as the primary medical professionals who provide care for athletes immediately following injury, evaluate and treat athletic injuries, assist with rehabilitation, design return to play exercise programs and have numerous other job requirements. The Athletic Training Identity Measurement Scale (ATIMS) was developed as a tool that can be used to evaluate athletic trainers and the ideals in which they hold true pertaining to their profession. Athletic trainers who participate in the ATIMS will subjectively determine what aspects of their job are the most important to them, and ultimately predict their "vocational identity."

Athletic trainers typically spend large amounts of time with athletes under conditions that promote personal interaction and trust, thus they are professionally in a position to provide counseling to athletes on a variety of issues (Moulton, Molstad, & Turner, 1997). The time that the athlete and athletic trainer spend together creates a unique relationship that is different from that of coaches and even teammates. Certified athletic trainers have a higher vocational identity, express more confidence, competence and feel more trained in sport psychology than undergraduate students, when asked by the ATIMS. Athletic trainers and undergraduate students alike, report a lack of professional preparation in the area of sport psychology when compared to the importance of psychological issues. Psychology classes should be brought to the attention of the officials in charge of athletic training programs at the national level.

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KEY TO ABBREVIATIONS

ATC   Certified Athletic Trainer

AT   Athletic Trainer

NATA   National Athletic Trainers' Association

BOC   Board of Certification

NAIA   National Association of Intercollegiate Athletics

NCAA   National Collegiate Athletic Association

CAATE   Commission on Accreditation of Athletic Training Education

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CHAPTER ONE

INTRODUCTION

Background of the Problem

Athletic identity has been often researched and discussed within the realm of sports and competition. Past studies have assessed the identity of athletes and how they view themselves within their sport in comparison to how they perform on the field. Success in competitive sport requires a high level of commitment and exposure to competitive situations (Brewer, & Cornelius, 2001). In some cases, athletes are so invested in performing well that they neglect other important aspects of their life so as to not miss any time training in order to achieve excellence (Brewer, 2001). An athlete will have created a sense of connection with their respective sport, thus creating an identity within themselves that is highlighted by the fact that they belong to the game – in essence, they have developed an "athletic identity."

Past research has explored how an athlete perceives who they are within their sport (Johnston, & Carroll, 2000; Lockhart, 2010; Stoltenburg, Kamphoff, & Bremer, 2011). The same cannot be said however of other roles within the athletic world. For example there are non-athletes who are involved in the game daily and who work closely with athletes. How do these personnel view themselves and the job they do each day? Certified athletic trainers (ATCs) are healthcare professionals who work in partnership with physicians to provide care and therapeutic interventions to athletes (NATA.org, 2014). Athletic identity measures have not examined whether or not athletic trainers create an identity within their profession when they begin practicing, and whether that identity shifts as they gain experience within the field.

Statement of the Problem

In the field of Exercise Science a large body of research exists that explores athletic identity formation among athletes (Johnston, & Carroll, 2000; Lockhart, 2010; Stoltenburg, et al., 2011). However, very little attention has been given to identity formation of those professionals working with collegiate athletes in an athletic training capacity (Niemi, 1997). Furthermore, current athletic training programs do not require significant training or coursework in counseling and/or sport psychology despite its perceived importance within the profession (Cramer-Roh, & Perna, 2000).

Often times, when an athlete has a high sense of "self-worth" within their sport they also have an identity relating to what they feel they are capable of accomplishing (Brewer, & Cornelius, 2001). Identity measurement scales have been used on athletes with success in the past as a way to subjectively measure the athlete's identity. The "Athletic Identity Measurement Scale" (AIMS) is a questionnaire that addresses different aspects of how athletes relate to the importance of sport participation (Brewer, & Cornelius, 2001). The relevance of this survey to the current study is that it can be adapted to represent a "vocational identity measurement" for non-athletes, or to reflect professional recognition. Professional recognition can be classified as the way a person views their current job/career, or it could be used by schools to determine what a person would be good at in terms of career building (Bartlett, 2012).

The Athletic Training Identity Measurement Scale (ATIMS) was developed as an adaptation of the AIMS as a tool that can be used to evaluate athletic trainers and the ideals in which they hold true pertaining to their profession. Athletic trainers who participate in the ATIMS will subjectively predict their "vocational identity." The results of the survey will also

allow a further understanding of whether or not there is disconnect between educational preparedness and vocational identity.

Going back to what athletic identity is, the representation of how an athlete perceives their success on the playing field, athletic trainer identity can be related to how effectively an AT feels they can do their job. When an athletic trainer completes all of the required courses and passes the certification examination they have an "entry-level knowledge" of the content they will use while working professionally (Prentice, & Arnheim, 2008). Similar to an athlete who gains skills at practice, an AT who adds knowledge to their "toolbox," will begin to grow professionally and increase their confidence within their career field. It is hypothesized that the more content an athletic trainer understands (increased competence) within their scope of practice, the more confident they will be when approached by an athlete who is injured. With that being said, one could infer that a combination of increased confidence and competence will increase the vocational identity of the athletic trainer or student within an athletic training program.

One of the key roles that an athletic trainer must play is to work with an injured athlete beyond just physical rehabilitation. The emotional and mental well-being of an injured athlete plays an important role in promoting faster recovery (Cramer-Roh, & Perna, 2000; Lockett, 2010). Athletes identify strongly with their sport and it is hypothesized that athletic trainers maintain a similar strength in identity within their vocational expertize. Measuring the identity of athletic trainers should be examined in order to determine what ATs perceive of themselves in terms of career/vocational identity, confidence and competence in their skills and abilities, and the attitudes they have toward sports psychology. Sport psychology relates to an athletic trainer's identity from a competence standpoint; if the AT perceives psychology as an

important aspect of recovery, and they have a limited foundation of knowledge in terms of psychological skills, then they are hypothesized to score lower on the ATIMS.

Purpose of Study

The purpose of this research study is to develop an understanding of how athletic trainers identify themselves in a vocational context. Additionally, this research is designed to explore perceptions of self-confidence, competence, and what attitudes athletic trainers have towards the practice of sport psychology within their professional field. The goal of the study was to survey 150-200 NATABOC certified athletic trainers and undergraduate AT students at different levels of collegiate athletics (NCAA D1, NCAA D2, NCAA D3, & NAIA). This study will also explore significant difference in identity and perceptions for three different career roles: undergraduate AT students, graduate ATs, and full-time/professors of AT. Data will also be categorized based upon years of experience working in the field of athletic training.

Hypotheses

H1: Athletic trainers have a specific and measurable vocational identity.

H2: Athletic trainers have a high correlation between perceived confidence and competence in performing their athletic training duties.

H3: Athletic trainers perceive that there is a lack of professional preparation in sport psychology.

Assumptions

1. It was assumed that all participants were honest in answering the survey questions.

2. It was assumed that all participants are members in their own right of their university's athletic training program/department.

3. It was assumed that all participants read and understood each question in its entirety.

Delimitations

The delimitations placed on this study were:

1. Limited timeframe for data collection which in turn produced a relatively small sample size when considering the size of the study population across the United States.

2. Limitations imposed through the use of a quantitative data collection instrument that does not allow for deeper probing or clarification on question topics.

3. Limitations on academic preparation programs that might have different class requirements for students despite all students having to meet similar NATABOC criteria.

4. Surveys were distributed to all levels of students despite time of experience within the athletic training setting; first-year students might have swayed the results without the experience to back their responses.

Definition of Terms:

Certified Athletic Trainer (ATC): healthcare professional who works in partnership with physicians to provide care and therapeutic interventions to athletes. In order to gain eligibility for NATABOC certification, all candidates must possess a baccalaureate degree and have successfully completed a CAATE accredited entry-level athletic training education program. (CAATE, 2012; NATA., 2014; Perrin, 2007).

Confidence: belief in one's ability to be successful; Sport Confidence: belief in one's ability to be successful in sport in general (Callow, & Hardy, 2001).

Counseling: Counseling is a learning-oriented process carried on in a simple one-to-one social environment by a professional who is competent in relevant psychological skills and knowledge. This professional possesses a realistically defined goal to in the end; assist a client to become a happier and more productive member of society (Biggs, 1994).

Identity: a clearly delineated self-definition comprised of those goals, values, and beliefs which a person finds personally expressive and to which he or she is unequivocally committed (Brewer, & Cornelius, 2001).

Perceived Competence: how qualified a person feels they are to perform a specific activity. Influenced by educational preparation; preparedness can increase the idea of what it means to be successful while completing an activity (Ray, & Wiese-Bjornstal, 1999; Williams, & Gill, 1995).

Institutional Membership:

1. NAIA: The National Association of Intercollegiate Athletics; to promote the education and development of students through intercollegiate athletic participation. Member institutions share a commitment to high standards and view athletic participation as an integral part of the total educational process. The NAIA supports gender equity, which promotes an atmosphere and a reality for fair distribution of overall athletic opportunities and resources. Enrollment for women and men is proportionate, and no student-athlete, coach or athletics administrator is discriminated against in any way within the athletics program (NAIA.org, 2015).

2. NCAA D1: The National Collegiate Athletic Association; Division I member institutions must sponsor at least seven sports for men and seven for women (or six for men and eight for women) with two team sports for each gender and each playing season must be represented by each gender also. There are contest and participant minimums for each sport, as well as scheduling criteria (NCAA.org, 2015).

3. NCAA D2: Division II institutions must sponsor at least five sports for men and five for women, (or four for men and six for women), with two team sports for each gender, and each playing season represented by each gender. There are contest and participant minimums for each sport, as well as scheduling criteria (NCAA.org, 2015).

4. NCAA D3: Sponsorship between genders is the same as Division II. Division III athletics features student-athletes who receive no financial aid related to their athletic ability and athletic departments are staffed and funded like any other department in the university. Division III athletics departments place special importance on the impact of athletics on the participants rather than on the spectators. The student-athlete's experience is of paramount concern, which is the largest difference from that of division 1 programs (NCAA.org, 2015).

Sport Psychology: the psychological study of human behavior in sport settings. Professionals who study these behaviors are particularly interested in how people (athletes) respond in different situations throughout the duration of an event, i.e. stimulation vs. relaxation (Horn, 2008).

<u>Social Support:</u> the benefits to well-being that people derive through their relationships with others (Corsini, 1994).

CHAPTER TWO

LITERATURE REVIEW

Introduction

Athletic Trainers are often looked at as the primary medical professionals who provide care for athletes immediately following injury. These professionals are qualified to evaluate and treat athletic injuries, they also assist with rehabilitation, design return to play exercise programs and have numerous other job requirements. The qualifications and job duties of an athletic trainer enable them to spend a lot of time with injured athletes throughout the entirety of the injury process. The time that the athlete and athletic trainer spend together creates a unique relationship that is different from that of coaches and even teammates. Athletic trainers typically spend large amounts of time with athletes under conditions that promote personal interaction and trust, thus they are professionally in a position to provide counseling to athletes on a variety of issues (Moulton, Molstad, & Turner, 1997). After an injury, the athletic trainer can play a significant role in how the rehabilitation process excels, understanding how psychology impacts recovery and implementing psychological skills will make a difference in the athlete's ability to cope (Crossman, 1997). One athlete said, "the psychological impact of an injury can have a very profound impact on motivation, their sense of belonging and their self-confidence," simple actions such as having a positive attitude with the athlete will go a long way with their recovery and motivate them toward returning to play (Crossman, 1997).

The purpose of this literature review will be to discuss the importance of emotional support given to an athlete throughout the injury process and how this can relate to the importance of educational training in psychology after injury. The athlete, athletic trainer,

coaches, family and teammates are all vital in the recovery process and will affect the long term recovery process that an injury has on an athlete. The main points detailed throughout the research, and presented in this report, are the job requirements of an athletic trainer, athletic trainer identity formation, athletic identity/injury, emotional responses to injury, the athlete's perception of the athletic trainer as a team member, athletic trainers' perception on their role as counselors to athletes/the effectiveness they have as counselors, social support available to athletes, coping responses to injury, types of psychological skills available to athletes, effects of non-normative transitions out of sport on athletes, and how the timing of returning to play is a critical step in the rehabilitation process. The Athletic Trainer plays a significant role in the recovery process of an athlete after an injury and a skilled professional will have a positive effect on time in the aspect of return to play.

What is an Athletic Trainer (AT)?

Certified Athletic Trainers (ATCs) are healthcare professionals who work in partnership with physicians to provide care and therapeutic interventions to athletes. An athletic trainer must attend an accredited athletic training program in order to become eligible to practice as a medical professional and obtain the ATC credential (CAATE, 2012; NATA 1993; NATA, 2014). Since the year 2004, all students enrolled in Athletic Training Programs must demonstrate educational competencies and proficiencies in twelve content areas throughout the degree program (Stiller-Ostrowski, & Ostrowski, 2009). Each of the content areas were established by the National Athletic Trainers' Association (NATA) Education Council and of these areas is the subject of "Psychosocial Intervention and Referral" (Moulton, et al., 1997; Stiller-Ostrowski, & Ostrowski, 2009). According to Stiller-Ostrowski, et al., the psychosocial content areas an athletic trainer

must be competent in are communication skills, motivation and adherence strategies, social support, basic counseling skills, mental skills training, and potential referral situations within the realm of athletic training. Athletic trainers and physical therapists alike, maintain that in order to have a successful rehab session, the athlete needs to fully be invested in what is being done and it is very important for the environment to be caring and conducive to healing (Lockhart, 2010). An article presented in the *Journal of Athletic Training*, outlines required educational standards of athletic trainers as being coherent in the psychological aspects of injury as well as incorporating psychological skills into the rehabilitation process (Hamson-Utley, Martin, & Walters, 2008). Professionals who are well versed in these psychological skills will be more likely to use them in the athletic training room, ultimately improving the outlook that psychology has within the scope of rehabilitation (Hamson-Utley, et al., 2008).

As mentioned previously, whether it is before or after an injury, certified athletic trainers (ATCs) have constant contact with athletes. This places them in a unique position in which they get to know each athlete on a more personal level and enables them to monitor and assess their physical and mental status more accurately (Cramer-Roh, & Perna, 2000). As a result, according to NATA, athletic trainers are expected to be competent in the area of counseling and psychology; more specifically ATCs should be able to identify when an athlete is suffering from distress and be able to make the appropriate counseling and/or referral decisions (Cramer-Roh, & Perna, 2000; Hamson-Utley, et al., 2008). Not surprisingly, ATCs report the need for continuing education credits to focus on counseling techniques due to the fact their responsibilities are so greatly increased in the psychological aspect when an athlete is injured (Moulton, et al., 1997). This demand is supported by a survey conducted in 1997 of sports medicine professionals, the professionals who had an educational background in psychological skills for performance

enhancement rated higher in confidence levels for treating an athlete who was injured for the very first time (Hamson-Utley, et al., 2008).

Athlete's Perceptions on Athletic Training

Athletic identity is not solely dependent upon how an individual views his or herself, it also is influenced by how coaches, teammates, athletic trainers and parents' view the athlete (Lockhart, 2010). This creates a very important role for these people throughout the entire injury and rehabilitation process. The relationship between the athlete and the athletic trainer needs to be consistent in order to develop a good rapport between each party. The athletic trainer can have a significant effect on the athlete's psychological recovery from injury simply by listening to what the athlete is feeling and being receptive to those things (Barefield, & McCallister, 1997). It has been reported that athletes actually do expect "listening support" from ATCs during the rehabilitation process (Barefield, & McCallister, 1997). Athletic training students also play an important role because when athletes were asked if they perceived a different amount of support from certified athletic trainers when compared to athletic training students, the athletes did not report that they felt a difference (Barefield, & McCallister, 1997).

Avoiding the loss of an athlete's perception on being part of the team can be addressed by athletic trainers if they develop a good relationship with the coaching staff through communication. Communicating with, and providing an understanding to, the coach for what the athlete's capabilities and limitations are during recovery will increase the coach's knowledge of the injury and recovery process and they may become more likely to include the athlete into team activities (Gould, Udry, Bridges, & Beck, 1997). Research has shown that elite skiers preferred a sports medicine professional who acted as a "spokesperson" for them while they are injured,

especially since the medical professional is the expert and will be able to provide the coach with the most knowledgeable responses to any questions they may have pertaining to the injury (Gould, et al., 1997). This obviously supports the conclusion that athletes did not only view their athletic trainer as a medical provider, but they looked to them for motivation and encouragement during the entire injury process and expected them to support them when communicating concerns to their coaching staff (Gould, et al., 1997). A common concern for an injured athlete is that they will be ostracized by the coaching staff when they are hurt. An open line of communication between the athlete, the athletic trainer and the coaching staff is essential for avoiding this perceived loss of team identity.

Communication with the coaches is important, but even more so is the open line of communication between the athlete and the ATC. Athletes who are injured need someone to talk to, they need someone who is there to listen to them and the athletic trainer holds that role (Barefield, & McCallister, 1997). Open communication will also drive the athlete's motivation level, explaining to them how to properly perform an exercise and why they are doing that exercise. Setting specific and attainable goals during recovery can increase task appreciation and also give the athlete confidence in the knowledge held by the medical professional (Barefield, & McCallister, 1997). When the athlete knows someone is in their corner and understands their frustrations, and are working to get them back, they will be more apt to commit to the process and see better results (Barefield, & McCallister, 1997). As much as it is important for an injured athlete to have the foundation of support from those around them, they also need the willingness to listen and keep a positive attitude throughout the rehabilitation process if they want to excel back to their respective sport.

Athletic Identity

Athletes who have been participating in sport for years will have an identity that is related to that of their sport. Elite athletes may have participated in one particular sport from a very young age and this sport may be the only thing that they know about themselves and it has been instilled in their minds to be the one thing they are "supposed" to do. Often times the involvement in a team can be an identifying factor for an athlete and an injury can push feelings of no longer being able to "help the team" which leads to further depression and even self-blame for team losses (Madrigal, & Gill, 2014). When an athlete gets injured, they may feel as if they have "lost their identity" (Lockhart, 2010). Commonly, when an athlete gets injured they experience this perceived loss of identity and the severity of this loss is strongly correlated to the strength of that identity (Lockhart, 2010). The more an individual identifies with their athletic performance, the higher their athletic identity is said to be; when they have a higher athletic identity, generally their individual identity and self-esteem decrease in strength (Lockhart, 2010). This creates an "unstable" balance of who this athlete really is and an injury can be extremely detrimental to whom this person believes they are because they become unable to perform in what they perceive as "all they are useful for" (Glazer, 2009). Coaches are an influential factor in athletic identity; many athletes once injured, feel like they lose the team aspect of their identity. Coaches are responsible for this loss because they will often times leave the athlete out of practice and tell them to do rehab rather than come to practice at all, this may lead the athlete to believe they are being replaced. Traveling can also affect identity because for most teams, especially NCAA teams, the injured players are not on the travel roster, which can increase that loss of identity because they are no longer on the same schedule as their teammates.

Measuring Athletic Identity can be done by using what is called "The Athletic Identity Measurement Scale," (AIMS) which is said to measure how much an athlete links their identity to athletics or sport competition (Glazer, 2009; Lockhart, 2010). A person with a higher AIMS score will have a more psychologically disruptive experience than a lower score person when it comes to athletic injury (Lockhart, 2010). Another study using AIMS scores and DI athletes reported that the perceived impact of chronic injury in these athletes were comparable to the impact that natural disasters had as a life and death matter in their minds (Lockhart, 2010). These numbers are very significant and this is important for athletic trainers to note based on the fact that no two individuals will respond to an injury in the same way and the rehabilitation process can be negatively affected if this distress is not addressed.

For an athlete to have a high sense of "self-worth" within their sport they must also have an identity relating to what they feel they are capable of accomplishing. Not all elite athletes will score high on the AIMS, just like not all novice athletes will score low. The score merely represents the individual and their idea of what the sport means to their life (Crossman, 1997; Lockhart, 2010; Madrigal, & Gill, 2014). The AIMS is a questionnaire that addresses different aspects of how athletes relate to the importance of sport participation. The relevance of this survey can be adapted to be an identity measure for other people that are not athletes, whether that is a professional recognition survey to look at how a person views their current job or it could be used by schools to determine what a person would be good at in terms of a career building. Some studies that incorporated the athletic identity measurement scale reflected that an athlete who scored high also responded with depressive reactions to simulated career-ending injury scenarios. The depression symptoms were associated with the feelings of helplessness and guilt that the injured athlete initially went through post-injury, ultimately affecting their athletic

identity. Mental toughness, hardiness and optimism are key components to the direction in which a person's life will go after they sustain an injury (Crossman, 1997; Madrigal, & Gill, 2014). The athlete who is able to withstand the pressures of performance, as well as stay completely healthy, is few and far between. With sport and competition comes the increased chance of getting hurt, especially since injury is usually unexpected and accidental. One way to aid in promoting healthy athletic identity would be to comprehend the last statement, an athlete who understands that injuries are a part of the game and not the fault of any one person or situation, is the athlete that will respond more positively to being injured. Of course they will not rejoice in the fact that they are hurt, but they will understand the circumstances and find the positives and allow themselves time to recover and become a more complete athlete throughout the injury process.

Athletic Trainer Identity

Using the AIMS as a method to determine the significance of other careers within the realm of sport and how identities relating to those jobs can differ from one person to another should be researched further. Athletic training is a profession that has five competency domains (NATA, 1993; Prentice, & Arnheim, 2008) each of which are taught to students as they progress toward becoming a professional, and although these domains are universal throughout education programs, any individual person will still have a different intake on what is more important than something else. Using an identity measurement scale on athletic trainers will help determine what domains are important in the opinion of certain groups of ATs and also allow the profession to understand that despite the standards every athletic trainer feels differently about certain aspects of their job. The Athletic Training Identity Measurement Scale (ATIMS) expands upon the general identity questions which are the entire AIMS questionnaire and it added competence,

confidence and attitudes toward the specific idea of sports psychology within the profession as three new subscales that are to be reviewed. The reason sports psychology was investigated within the ATIMS is because of the reasons listed earlier in this literature review. The mental aspect of injury is said to be just as important as the physical by some scientists and this scale is designed to find out how many athletic trainers agree or disagree with this idea.

Athletic identity plays a large part in how the recovery process will move forward. As mentioned above, the person who has the higher sense of self-worth in relation to what they can do "on the field" will face more distress when they sustain an injury. The identity of an athlete will affect the return to play process when the athlete has a higher score on the measurement scale (Glazer, 2009; Lockhart, 2010). When compared to someone who has a lower AIMS score, the athlete who gets hurt and feels like they are no longer important, and has lost a part of their life, will face more psychological roadblocks in their recovery and could ultimately have a longer rehabilitation process. Psychological therapy in terms of recovery after injury has been debated time and time again but it has not been incorporated into most rehab prescriptions. After an athlete gets hurt, especially for the first time in their career, they will clearly have issues about what their role is within the team and this is an obvious and natural response to getting hurt, how that athlete then handles that situation is the difference in how their athletic identity allows them to cope.

The return to play process poses many stresses for athletes when it comes to a fear of re-injury or returning too soon, when the athlete has a depleted sense of confidence due to a loss of identity after injury, the process may take even more time (Glazer, 2009). If the athlete does not feel physically ready to play then they will probably not play well, and them not playing well

will in turn alter their perception on "who they are as an athlete," and essentially, their athletic identity. Returning to play is a very important factor when considering using psychological skills to address an athletes' athletic identity because it can lead to more harm than good if done incorrectly. Athletic trainers can use a psychological readiness scale to survey athletes about their comfort levels on and off the field at certain points throughout the rehabilitation process. This readiness scale can enable AT's to make educated decisions about allowing them to return with the least friction possible (Crossman, 1997; Glazer, 2009).

Athletic Injury

Pain is not the only factor involved in the injury process, as discussed above. When comparing depression levels in injured and non-injured athletes, the injured population had a significantly increased negative mood state according to Cramer-Roh, & Perna, 2000. The most common emotions reported in athletes post-injury are frustration, depression and anger. Along with these feelings, athletes also reported experiencing irritability, miserableness, discouraging and uncomfortable feelings, and compared to non-injured athletes they displayed negative mood cycles such as hostility, fatigue and tenseness (Crossman, 1997). Put more simply, athletic injury is a psychological and physiological stress that the body and mind must encounter and respond to accordingly. Interestingly, between 5% and 19% of athletes who are injured have similar levels of psychological distress as a person who is getting treatment for mental health issues (Glazer, 2009).

Athletes must understand how to change their athletic identity perspective and lower it to a more self-esteem responsive level, this will help them cope with being injured (Lockhart, 2010). Self-esteem will control feelings in a positive way if the athlete can relate the

"opportunity" of participation in sport as a privilege and an injury it becomes just another obstacle and not a roadblock in their mind. The idea is that, obstacles are able to be overcome with determination, but roadblocks require mental skills training in order to surpass them. Negative emotions or thought processes can be replaced with positive ones as the person progresses through the rehab process by encouraging them to increase their hope, enthusiasm and optimism during the injury state (Crossman, 1997). Athletic Trainers must be able to identify all the aspects of athletic injury in order to treat athletes correctly. Helping an athlete get back to "pre-injury state" can be a tall task because the rehabilitation process may be different even for two athletes who have the same injury (Cramer-Roh, & Perna, 2000).

Physiologically, stress changes the way the body is able to handle and resist infection. According to Dragoş, & Tănăsescu (2010) acute stress increases the body's ability to resist infection, whereas chronic stress suppresses the immune system and allows the body to become more susceptible to illness. During acute stress, sympatho-adrenergic mediated responses within the body increase which create a flow of immune cells toward inflammation or infection sites, decreasing morbidity (Dragoş, & Tănăsescu, 2010). Chronic stress seems to limit these responses and a negative effect is had on the body, research today shows how psychological stress and chronic stress are similar and how they can be detrimental to the body during recovery after injury. Stress can either increase or decrease immunity depending on the duration and the person's perception of the stress (Dragoş, & Tănăsescu, 2010). How an athlete deals with injuries psychologically, is very much an example of how they adapt to stressful situations and their response will affect their time of recovery physiologically. When the body is injured, there is a literal stress response by the tissues themselves. Stress-induced neural, endocrine and immune alterations occur which interfere with processes that are important in the initial phases of wound

healing (Dragoş, & Tănăsescu, 2010). Chemically mediated responses have been shown to activate immune and inflammatory processes in the epithelium and lead to hindered lipid synthesis and cytokine expression which decreased the healing time of skin wounds in subjects exposes to short and long-term stresses (Dragoş, & Tănăsescu, 2010).

Rehabilitation after injury is essential to decrease time to return to play. Acute stress has been shown to accelerate both the resolution of an infection and wound healing. The physiological mechanism believed to be responsible for this is a stress hormone-related mobilization of immune cells. Stress hormones seem to redistribute the location of leukocytes so that they are present in adequate numbers at the site of injury or infection during acute stress (Dragoş, & Tănăsescu, 2010). The body treats exercise as a voluntary stress, the acute cellular physiological responses to exercise outside of the skeletal muscular system, is similar to that of what an injury or infection exert within the body. If the body is responding to rehab as though it is an acute stress, then the body will in turn "heal faster" according to this research (Dragoş, & Tănăsescu, 2010). Having a true understanding of the physiological responses to stress (injury) on tissue is essential for athletic trainers during the rehabilitation process and can indeed allow them to influence the healing process in a positive fashion allowing for faster recovery.

The stress caused from athletic injury will also have an effect on athletes' cognitively, even if the injury is not related to the brain or spinal cord. Research has demonstrated that Cognitive Behavioral Stress Management (CBSM) can reduce fatigue, depression, and cortisol response to heavy exercise training and in turn managing the stress can speed physical and psychological recovery (Perna, Antoni, Baum, Gordon, & Schneiderman, 2003). Participants in the study assessing stress management were trained in somatic and cognitively-based strategies. The somatically-based strategies included relaxation techniques such as progressive muscle

relaxation and diaphragmatic breathing exercises. The cognitively-based strategies consisted of visual motor behavioral rehearsal, emotive imagery, and cognitive restructuring paired with emotional expression through written responses to their experiences (Perna, et al., 2003). This study also tested the efficacy of the CBSM intervention in reducing the incidence of illness and injury among athletes. The athletes assigned to the CBSM group experienced significant reductions in the number of days they reported illness and injury and they also reported half the number of health visits when compared to the control group athletes. The findings of these CBSM-induced reductions in injury and illness among athletes is consistent with earlier work supporting the effectiveness of CBSM for improving athletic performance and promoting recovery following orthopedic injury (Perna, et al., 2003).

When added to the physiological demands of exercise training, psychological stress (in this case due to injury) can cause alterations in attention, affect, and behavior. Psychological stress will also cause an imbalance in stress hormone mediated responses causing a disruption in immune and skeletal muscle system recovery, which increases the susceptibility to injury and illness in athletes (Perna, et al., 2003). These are important results for clinicians such as athletic trainers, physical therapists and counselors to understand because stress management techniques during the rehabilitation process may decrease injury recovery time among athletes. Altering the biopsychosocial aspect of injury is essential in creating a positive environment that allows the athlete to perceive the injury as an obstacle to overcome and not something that will ruin their life; this will give them optimism throughout the process and create a functional relationship between the clinician and the athlete.

Emotional Responses to Injury

Athletic Trainers are often on the frontline of helping injured athletes heal emotionally from the trauma of an injury. Indeed, the identity of an Athletic Trainer is inextricably linked to the altruistic care-giving nature of the rehabilitation process. Athletic trainers understand that emotions alone can affect the healing process. The most important aspect of these negative thoughts to remember is that when treated correctly, these thoughts are reversible. The current psychological state of the athlete will influence the rehabilitation process in the direction of their mood state. Confidence, motivation, anxiety and attentional focus are said to be the main contributors to adherence and quality of rehabilitation (Cramer-Roh, & Perna, 2000). Negative emotions create anxiety and tension, each of which can lead to decreased performance (Crossman, 1997). Stress can hinder the healing process, in this case an injury is the stressor, and it can impede the healing process (Crossman, 1997). Injury has obvious negative emotional effects on athletes but overtime, and as progress is made in the rehab process, the impact emotions have on healing decreases as self-rated recovery increases (Johnston, & Carroll, 2000).

Injury leads to a loss of fitness and a decreased sense of social support, other stressors may linger throughout entirety of the recovery process for some athletes. At the onset of injury, the athlete will feel depression and denial due to being ruled out of competition; during the rehabilitation process the stressors become more performance-related. A lack of progress in rehab may take over mentally and become discouraging, which can cause decreased motivation for properly finishing the rehab assignment. Finally, during the recovery and return to play stage, the fear of re-injury can develop which may also lead to further hindered progress and lead to a discouraged athlete (Mohan, & Paul, 2014). Athletes seem to have greater mood swings during the initial injury phase and complex emotions like anxiety, fear, anger and confusion, frustration

and depression. There is a greater need to work with athletes early in the post-injury period because there are a wide range of emotional responses present as compared to later in the process (Mohan, & Paul, 2014). Later on in the injury process, when the athlete is becoming able to participate more and gradually return to play, fear begins to take over as the primary emotional response because re-injury thoughts spark the athlete to feel as if they are not fully ready to go.

According to a study conducted in 2012 by Michelle Bartlett out of West Texas, there is a great need for Sports Psychologists to be present in the athletic training room. Many athletic trainers state that they do not feel fully prepared to deal with even the most basic counseling component of athletic training and since they "already wear many hats" they expressed an interest in gaining the required knowledge of doing so but there is a lack of formal education in this area. Suggestions to addressing the psychological issues of injured athletes as well as improving the current inadequacies of the current athletic training room are to increase the training of the sports medicine team members on recognizing and administering psychological skills training (Bartlett, 2012). While it is important for this to be done for proper care and referral, this study also details the point that since these athletic trainers already have so many duties, it is more ethical and efficient to add sports psychologists to the athletic training room personnel (Bartlett, 2012). Availability is the main issue, only 25% of athletic trainers reported to have referral access to a sport psychologist and only 23.9% reported ever making a referral. These numbers are despite 71% of ATs reporting that athletes did face stress and anxiety after injury and 47% believed that every injured athlete suffers from some psychological trauma (Bartlett, 2012).

The focal point here was not to enforce sport psychologist presence within the athletic training room, although doing so would have its benefits, the point was to clarify the importance

of addressing the psychological aspect of injury. The psychological state of the athlete at the time of the injury is an important aspect of how they will cope with the fact that they are newly injured (Crossman, 1997). If an injured athlete is confident that they will get healthy and return to play, or they are motivated to begin the rehab process, they will not be as easily distracted by internal or external battles and will have an increased attention and focus to rehab-related tasks leading to a more positive result (Cramer-Roh, & Perna, 2000; Perna, et al., 2003).

Just as athletic trainers and physical therapists must understand the psychological aspect of injury, it is important that a strength and conditioning coach also understands the importance of their role in the rehab process. The outside view of a strength coach is often looked at as the person who doesn't tolerate slacking or doesn't sympathize with someone who is complaining of being hurt, and that personality role is definitely needed in an athlete's life at certain points, but after injury it can be detrimental to how some athletes recover. There is certainly a time and a place for an athlete to be told to get up and try again, however it is hoped that the strength and conditioning coach will consider all aspects of recovery to help expedite the process for the athlete to return to competition (Cudmore, 2014). The strength and conditioning coach should be well versed in identifying an athlete's physiological strengths and weaknesses, but one area that is often overlooked is the identification of psychological factors that could predict injuries, prolong recovery and cause performance decrements (Cudmore, 2014).

Areas in which a strength coach needs to consider becoming more competent include identifying how, psychologically, an athlete is affected by injury and their current mental wellbeing, recognizing warning signs for possible difficultly in adjustment to injury and being able to implement psychological variables while designing a rehabilitation treatment plan (Santi, & Pietrantoni, 2013). A key component for a strength coach to have success with an athlete

facing emotional adversity during rehab is to consider the athlete's mind-set. The strength coach will be able to affect the way an athlete is approaching a situation mentally because of the rapport they have developed with the athlete, many times when they tell the athlete that they need to do something, the athlete does it out of respect or sometimes fear of punishment. Having that "power" over the athlete can most certainly play an important role in motivating the athlete to give their rehabilitation everything that they have. The strength and conditioning coach should promote "self-belief" and challenge the athlete to reach new goals each day with their rehabilitation specialist even if their strength coach is not the one performing the rehab for that particular athlete (Cudmore, 2014).

Controlling stress levels can lead to a decrease in the number of injures an athlete sustains; essentially saying that if a person has a high level of stress consistently then they are more prone to being injured. Not only are they more prone to injury, but the time to recover could very well be exaggerated if the proper psychological skills are not in place to counteract the stresses of daily life (Perna, et al., 2003). Perna, et al. present that having psychological stress, i.e. stress caused by athletic injury, supplementary to the physical demands of exercise (or rehabilitation in this case) may lead to an increase in stress hormone disruptions to the skeletal muscle system during the recovery processes, increasing susceptibility to injury in athletes (Perna, et al., 2003).

Athletic Trainers' Perceptions on Counseling Athletes

Athletic trainers and other allied health professionals believe that athletic trainers are in an ideal position to enhance psychological recovery from athletic injuries as well as applying basic counseling skills to these athletes (Cramer-Roh, & Perna, 2000). An effective athletic

trainer is not limited to one skill but will be proficient in all the domains of the profession. The

domains referenced here were established by the National Athletic Trainers' Association in order

to develop competencies that would hold ATs accountable for the knowledge required to be a

responsible professional. The six domains include: (1) prevention of athletic injury; (2)

recognition, evaluation, and assessment of athletic injury; (3) immediate care of athletic injury;

(4) treatment, rehabilitation, and reconditioning of athletic injury; (5) organization and

administration of athletic injury; and (6) professional development and responsibility. One

specific competency of the profession is a basic understanding of psychology/counseling. This

competency encompasses aspects of all six of the domains established by the NATA and includes

the recognition and necessary referral of significant psychological distress (Cramer-Roh, &

Perna, 2000). Athletic trainers, and more importantly injured athletes, may benefit from the

addition of counseling techniques to supplement the usual somatic modalities applied in sports

medicine centers (Furney, & Patton, 1995).

Counseling can be characterized as "emotional first aid," which is a useful conception on

the topic for this literature review (Ray, & Wiese-Bjornstal, 1999). First aid in a general sense, is

a short-term treatment provided to someone immediately after becoming injured and is usually

serviced by someone who is skilled in treating such cases of injury. The perception of counseling

as a form of emotional first aid is arousing to sports medicine professionals because they are the

ones who generally deal with injuries at the earliest stage and interact with athletes on a daily

basis. To truly assert the element of counseling when dealing with an injury, caregivers must

supply a form of social support, promote choices, help with goal setting, and encourage decision

making throughout the rehabilitation and healing process (Furney, & Patton, 1995). A broad

range of definitions have been provided when it comes to what psychology means in the world of

sports medicine due to the number of different professionals who deal with the physical and mental health of an athlete. As much as it is important for athletic trainers to act as a first line of defense for any potential psychological issues after an injury, there are also questions that arise about why they would not just refer that athlete to a mental health professional. According to Wiese-Bjornstal, & Smith, it is within the duties of an athletic trainer to be there for their athlete for such issues; they have proposed that ATs have a legal and ethical duty to counsel these athletes, the author feels that the athletes want the AT to counsel them and most importantly doing so will increase the effectiveness of recovery based on patient outcome (1993).

From a legal standpoint, athletic trainers must always comply with what it is their "minimal" duty to a patient is, in this sense there are two negligent behaviors that ATs must be aware of in order to avoid legal action taken against them: the failure to warn and breach of duty. Failure to warn is when the health care professional attempts to treat the patient without consent of treatment, this does include the mental first aid that is sports psychology. Therefore, clear communication must be established between the professional and the athlete in order to understand what it is the athlete expects from them (Fisher, Mullins, & Frye, 1993). A breach of duty would be the athletic trainer not performing the "legal required duty" to that person, or the failure to treat them with the minimal standards that any professional would have treated any athlete in the same situation (Makarowski, & Rickell, 1993). Athletic trainers should understand what it is they are looking for when it comes to stress-related attentional deficits and be able to intervene when necessary, this is not only a legal point but an ethically significant one as well. Ethically, ATs must strive to not only treat injuries but also to prevent injuries and being alert for these mental issues is one way they can prevent further complications and provide the correct treatment quickly (Weiss, & Troxel, 1986).

An interesting point was raised in the book, "Counseling in Sports Medicine" regarding how the effectiveness of practice can be improved when ATs incorporate counseling in their toolbox (1999). The point of noncompliance was used to represent the importance of counseling during rehabilitation, so many patients fail to listen to the medical advice they receive, i.e. not taking prescribed medications or failure to complete a home exercise program. Increased levels of counseling can lead to improved outcomes in practice in the areas of injury prevention and recovery (Daly, Brewer, Van Raalte, Petitpas, & Skylar, 1995). Counseling has been shown to help patients alter their behaviors to turn their attention more to accident prevention lead to decreased injury rates; it has also shown to provide athletes with a decrease in the level of post-surgery anxiety which in turn decreases the recovery process (Alexander, & Krane, 1996).

According to previous research, athletic trainers' felt that educational preparation in the area of counseling was not sufficient enough to handle many typical counseling situations (Moulton, et al., 1997; Stiller-Ostrowski, & Ostrowski, 2009). Many of the athletic trainers' who were evaluated about this stated that they felt "qualified" when discussing personal issues with an athlete, but they did not feel adequate when using counseling techniques to help these athletes (Moulton, et al., 1997). In a national survey, 47% of athletic trainers reported believing that athletic injuries played a significant role in the psychology of the athlete, they also said that the psychology aspect of injury needed to be addressed concurrently with the injury itself (Cramer-Roh, & Perna, 2000). An athletic trainer who works with the same team every day will have a big advantage as far as knowing how each one of the athletes on a particular team will act day in and day out. This will be a key to understanding what it is that an athlete is doing to show signs of depression or the lack of effective coping strategies after an injury. Understanding individual

athletes' coping abilities can help ATCs determine ways to motivate athletes and help them cope with the mental state of injury (Madrigal, & Gill, 2014).

Athletic trainers' perceive their role in counseling athletes after injury as important but this raises the question of how qualified they really are to do so. It is important for a medical professional to understand their skill-set and knowledge for every aspect of their job; referral is important in all healthcare positions and finding someone more qualified to handle such fragile situations is vital. Athletic trainers should be aware of sport psychology professionals and the team approach to rehabilitation (Moulton, et al., 1997). It can be dangerous for an athletic trainer to feel as though they have the ability to "do it all," this false sense of security can lead to a missed referral when a referral to a more qualified professional was warranted and can cost the athlete valuable time or can potentially be dangerous to the athlete's well-being (Makarowski, & Rickell, 1993).

A simple way for an AT to understand when they are in over their heads is to understand their educational and experience-based limitations. The lack of training, lack of comfort with the situation, lack of resources at convenient expense, conflicts of interest, and when the athlete begins to require ongoing counseling sessions, or a dependency develops are all examples of when a referral is necessary and expected (Henderson, Pollard, Jacobi, & Merkel, 1992). A survey in 1997 allowed athletic trainers to report the most common complaints that athletes portrayed to them during the sports season. The list of complaints were ranked from 1-6 based on the number of times they were reported to the ATC, with the more times reported having a lower numerical rank (Moulton, et al., 1997). The most common complaints that athletes approached athletic trainers about were conflicts with the head coach or other players and health-related

concerns. Health-related concerns include injury and illness and this clearly identifies the importance of a team approach to understanding the psychology behind being hurt (Moulton, et al., 1997).

Effect Athletic Trainers' have on Injured Athletes

As mentioned previously, the relationship that athletic trainers have with athletes creates an open line for communication and enhances the effect that ATCs can have on the emotions of athletes. Promoting a positive mindset, altering thought processes, decreasing anxiety with imagery and positive self-talk are examples of psychological skills that have proven to benefit the injured athlete (Hamson-Utley, Martin, & Walters, 2008). An athletic trainer capable of teaching these skills will promote higher adherence rates and faster recovery and thus more successful rehabilitation programs (Hamson-Utley, et al., 2008). Self-acceptance self-esteem and achievement self-esteem are two aspects of "self" and how athletes can view their athletic identity. "*Self-acceptance self-esteem*" is an individualized perception of success that is usually present when an athlete can see the bigger picture and understand that participation in sport is more than being on the field and being effective; it is about knowing that when they are on the field they strive for perfection and achieve true self confidence that they gave it all they had (Lockhart, 2010). "*Achievement self-esteem*" is correlated with a sense of accomplishment; the better they do on the field the more successful they feel they are, and the athletic identity will buy more into the latter of the two (Lockhart, 2010). Many athletes' athletic identity are so engrained in their minds with this "achievement self-esteem" that it will often times take a substantial injury for them to realize that they have a choice between these two ideas (Lockhart, 2010). The athletic trainer must act as an educator and teach these athletes that it is up to them to

understand where success in sport comes from and focusing on returning to play is the first step in a long process of learning what type of athlete they truly are (Lockhart, 2010). Injury can change the way an athlete thinks and those athletes who have an understanding on what it means to be successful will be able to recover more quickly and have better return-to-play odds.

Types of Psychological Skills used by Athletic Trainers

All professionals should be aware of the possible duties that they may one day have to address. When asked to list the skills that they thought were most important when helping athletes cope with sport injuries, athletic trainers said injury recognition, motivation, goal-setting, counseling and stress management rounded out their top five (Moulton, et al., 1997). These five items all are examples of psychological aspects of recovery from injury. This survey designed study, reported that athletic trainers felt they were put into a position where counseling athletes on personal issues was not just necessary, but a requirement of their position (Moulton, et al., 1997). They felt their role extended beyond the care of injuries and into the role of an educator and a counselor. Most of the athletic trainers claimed that they preferred managing problems related to injury rather than personal ones because they were concerned about their qualification to deliver appropriate professional responses (Moulton, et al., 1997).

Many sports medicine professionals have embraced psychological techniques as an important modality for increasing performance; the thought is that the same mental energies used for competitive preparation can be channeled into injury prevention and treatment programs (Ray, & Wiese-Bjornstal, 1999). Psychological skills that are commonly used to increase athletic performance and enhance recovery after injury are: promoting a positive mindset, altering thought processes to think positively about recovery and less negative thoughts, decreasing

anxiety with positive self-talk, relaxation techniques, social support resources, systematic desensitization, and goal setting (Hamson-Utley, et al., 2008; Ray, & Wiese-Bjornstal, 1999). Goal setting is an important yet simple way to encourage an athlete to take control of their stress-inducing situation, it allows the athlete to engage in their own treatment, here they can decide on the things they wish to accomplish with rehab and goals will provide them with a sense of control during a time that they may feel as if they cannot control anything (Wiese-Bjornstal, & Smith, 1993). Imagery is another effective technique for decreasing performance anxiety as well as an overall anxiety reduction with injury (Hamson-Utley, et al., 2008; Warner, & McNeill, 1988). It is essential that athletic trainers are educated about the ability to use these skills to their advantage in promoting healing and return to play for injured athletes.

Relaxation techniques seek an outcome of teaching athletes to control their muscles by releasing muscular tension and increasing the "relaxed state," thereby minimizing the effects of competitive stress and possible anxiety related stresses both pre- and post-injury state (Warner, & McNeill, 1988). Athletes who react to stress with negative thoughts are often unable to determine the necessary physical and mental adjustments needed to counteract the stress and become preoccupied with the negative things, disrupting performance. This holds true for an athlete after the stress of sustaining an injury as well as for the non-injured athlete who is facing a time of competitive stress (Wolpe, 1973). Stopping negative thoughts and positive self-talk are vital to eliminating the self-imposed stress of competition and injury, if the athlete can replace the negative thoughts with positive statements using verbal, visual or imagery cues they will be able to recover more quickly and cope with stresses in a productive way (Ray, & Wiese-Bjornstal, 1999; Wolpe, 1973).

Imagery, also known as visualization, is used greatly and involves mentally rehearsing performance outcomes that will be positive and lead to increased motivation. Using imagery before competition can lessen stress and influence a decreased risk for injury (Green, 1994). Imagery used for post-injury visualization can return a sense of control to the athlete, even though they are physically unable to perform an action they can envision a successful performance and this creates a sense of relief in their mind leading to decreased stress (Granito, Hogan, & Varnum, 1995; Green, 1994). Specific injury recommendations given by Richardson and Latuda are injury, skill and rehabilitation (1995). Injury imagery is when an athlete visualizes the injury, with the use of anatomical models, books, X-rays, and photographs. The athlete literally visualizes the injured bones and soft tissue and gains control over the injury and helps the athlete eliminate negative thoughts by answering the unknowns about their situation (Richardson, & Latuda, 1995). Skill imagery involves the athlete mentally rehearsing sport-related activity without making any mistakes so as to remain in an actual sports situation, enhancing feelings of control (Ray, & Wiese-Bjornstal, 1999). Rehabilitation imagery is sort of a combination of both skill and injury imagery, the athlete will visualize the injured bones and soft tissue as they go through the healing process, they see a fully healed injury and themselves playing their sport and making no mistakes (Ievleva, & Orlick, 1991; Ievleva, & Orlick, 1993). During rehabilitation imagery the athlete can also visualize themselves completing exercise tasks and the desired effects of each activity (Green, 1994).

Athletic trainers must understand how to teach each of the psychological skills to athletes in order for them to be effective. This is especially true for systematic desensitization, which involves the perfected skills of relaxation and imagery (Wolpe, 1973). An athlete needs to completely understand how to complete each of those two skills for this one skill to work

properly. First, the athlete will reach their most relaxed state, at this point they will begin to sequentially introduce all of the things that cause them anxiety, such as being injured or wondering if they will ever play again. They will begin to go through their relaxation skill until no anxiety is felt with the specific situation. This will be performed over and over again until their entire list of anxieties has been processed and no fear remains (Wolpe, 1973). For the athletes who are not quite at a point to have mastered controlling negative thoughts, there is the cognitive restructuring skill. An article by Ievleva and Orlick reported that an athlete who has trouble keeping their mind off of the negatives has been shown to have a slower healing rate than the athlete who uses positive self-talk and is self-encouraging (1991). According to a related study, "thinking and acting in a positive way contributes to personal well-being and enhanced health" (Ievleva, & Orlick, 1993, p.231).

This is important information for sports medicine professionals to understand. The outcome of rehab can be directly correlated to how a person mentally approaches their rehab each day. If the mental side of the injury is not addressed, professionals can lose valuable time in the recovery process after an injury. A competent athletic trainer should know how to teach an athlete basic psychological skills, despite the fact that there will always be cases that are beyond those these basic skills can address. For the cases that require additional treatment, as discussed previously, proper referrals need to be in place in order to get that person the help they need. Rehabilitation after athletic injury should be addressed from a whole person perspective, mental as well as physical rehabilitation and from the professional standpoint, it should be a team approach where no one person feels as if they can "do it all."

Coping with an Injury

Among all of the factors that accompany injury, another psychological factor includes coping. The stress-response model of injury outlines coping resources as a factor that is stated to increase or decrease the likelihood of a stress response post injury (Kerr, & Goss, 1996). Athletes who have access to and who actually use coping resources have an advantage when they become injured because coping resources are helpful when dealing with that stress, having those resources available also has been said to decrease the susceptibility of getting injured in the first place (Stone, & Porter, 1995). For a person to perform safely in their respective sport they need to have control over their emotions and concentration. High school students who scored low in social support mechanisms are predicted to have a greater risk for a sports injury due to the relationship between higher life stress and sport injury (Stone, & Porter, 1995).

Athletes should be encouraged to build upon their coping skills and resources in order to prevent future injury. Promoting coping is a skill that healthcare providers need to master and add to their toolbox because it will make all aspects of their job easier; athletes who can understand how to handle stressful situations, i.e. getting hurt, will be able to recover faster and more effectively. Coping is defined as, "cognitive and behavioral effort to manage specific internal and external demands that an individual sees as stressful and exceeding his or her usual resources and management approaches" (Folkman, & Lazarus, 1980). Athletic trainers should understand the two coping mechanisms that athletes respond to most predominantly; emotionally focused coping which reduces the negative emotional impact of the stress and problem focused coping which attempts to remove the stressful stimulus (Martin, 1983). The athletic trainer is a

great person for helping athletes determine which style of coping will be most effective for them because of the unique relationship they have with the athlete.

Coping mechanisms are related to both pre- and post-injury factors; pre-injury factors that affect coping are the athlete's history of stressors (in this case history of injury), coping resources, and the interventions used to manage stress (Brewer, & Cornelius, 2008). Post-injury factors that affect coping include the athlete's general health, the type and severity of the injury and the effect it has on sport involvement, and the accessibility to rehabilitation (Brewer, & Cornelius, 2008). These factors all combine to determine the cognitive appraisal of the injury, and in turn affect the emotional responses to injury and potentially the outcome of rehab (Brewer, & Cornelius, 2008). The more negative the cognitive response, the more negative the outcome will be during the healing process (Brewer, & Cornelius, 2008). Younger individuals generally have underdeveloped coping strategies and are more susceptible to be influenced by an athletic trainer, coach, physician or teammates when progressing through injury rehabilitation (Covassin, Crutcher, Elbin, Burkhart, Kontos, 2013).

The importance of coping responses for athletes lies beyond having a bad day on the court. A bad day is quickly forgotten when an athlete is playing all the time, getting hurt and having to miss an entire season is where the importance of coping truly escalates. Players who can go back to the locker room and understand exactly what the injury means, the ones who can eliminate the negativity brought on by questions are the ones who will be able to turn around and recover more efficiently. Teammates, staff, friends, family and anyone else close to that athlete will be able to help them cope with their newly acquires circumstance and allow them to deal with an injury in a healthy way.

Social Support in Counseling

A study by Sarason, et al., defines *social support* as "the existence or availability of people on whom we can rely, people who let us know they care about, value and love us" (1983, p. 128). Having social support can strengthen the ability to cope with the frustrations that come hand in hand with being an athlete (Sarason, et al., 1983). These lines of support come from family and friends primarily, but coaches, athletic trainers, physicians and counselors are other means of social support to athletes (Yang, Asa-Peek, Lowe, Heiden, & Foster, 2010). As reported in a social survey, females seem to rely more on friends than males but rely less on coaches, ATCs, physicians and counselors; while both males and females are reported to equally rely on family for this support (Yang, et al., 2010).

Athletes need external support in order to assist in coping with an injury; this is especially true when an athlete is hurt for the first time. Social support is important when referring to coping mechanisms after injury. When measuring social support, aspects that need to be addressed are the number of perceived social supports in a person's life and the degree to which each of these supports are satisfying to the individual (Sarason, et al., 1983). Social support is very important in rehabilitation of an injury because the people involved in the athlete's life are going to be able to decide how to incorporate them into daily activities, whether it is a coach, teammate or the athletic trainer. Including the athlete in team meetings and showing enthusiasm for their progress in rehab are easy ways to show the athlete they are still a part of the team and help them feel welcome (Crossman, 1997). Injured athletes seem to rely more on coaches, ATCs and physicians after an injury and have satisfaction with doing so (Yang, et al., 2010). After injury, both males and females noted relying more on athletic trainers for social

support as well as being more satisfied than at baseline. Males however, were less satisfied with family social support post-injury than what they reported at baseline (Yang, et al., 2010).

It is clearly important for athletic trainers to understand that males and females have differing social support systems pre- and post-injury and recognizing how these social structures can change is a key way to help athletes because the ATC can involve these groups into the rehab process in hopes to avoid a distance in places that they usually do not have (i.e. teammates) (Yang, et al., 2010). There is no question that social support is a facilitating factor in recovery from a physical injury, but research also shows that positive social support could serve as a protective mechanism because it helps decrease stress and increases motivation which allows an athlete to play at a level of confidence safer than those who lack confidence (Perna, et al., 2003; Yang, et al., 2010).

Non-normative Transition out of Sport

Non-normative transition out of sport is an unexpected exit from a sport, whether season or career-ending, and is nothing short of a freak accident (Stoltenburg, et al., 2011). An example of a non-normative transition would be when an athlete suffers from an ACL tear with only 4 weeks left in the season and must undergo surgery to repair the ligament, prematurely ending their season. A career-ending injury is usually more complex; a football player leads with his head during a tackle and takes an axial load on the helmet leading to a fracture of the cervical spine and a compromised spinal cord permanently. Non-normative transitions are not always debilitating but the complexity will vary with the nature of the injury (Stoltenburg, et al., 2011). The career-ending injury has just as many complex psychological aspects as the injury itself has physiologically. Athletes who sustain career-ending injuries can have a wide range of emotional

responses. The suddenness of the event and/or being forced into early retirement can cause trouble adapting to life as a non-athlete and lead to long-term negative effects on athletes' lives (Stoltenburg, et al., 2011). These negative emotions range from loneliness, decreased confidence, grief due to losing the connection they had with the sport they love, depression, alcohol abuse or even suicidal thoughts (Stoltenburg, et al., 2011). Season-ending injuries still involve these negative emotions and in both cases athletic trainers must be able to help these athletes realize the importance of working hard during recovery and finding things that will motivate them throughout the process.

Returning to Play

After injury the return to play process can be complicated and coming back too soon is a common issue within the realm of athletics. Athletes want to get back into the game and after an injury they have "something to prove" even more than before and will often times come back before they are ready. The thought of returning to play after injury sparks anxiety in athletes. Injured athletes fear that they may not be ready physiologically and start questioning their recovery (Glazer, 2009; Hamson-Utley, et al., 2008). The fear of re-injury is a psychological response to a physical attribute and it creates anxiety, depression and a possible decrease in performance (Glazer, 2009).

A scale has been developed by sports medicine professionals that can be used on injured athletes throughout the injury process that will "assess their psychological readiness to return to full sport participation (I-PRRS)" (Glazer, 2009, p. 186). This scale will measure the confidence of athletes at a given time and scores range from 0-100, with intervals of 10 and 50 being a "moderate confidence" level (Glazer, 2009). This is a great tool when working with athletes who

have never been hurt before because it assists ATCs in determining the appropriate time for the athlete to return to play (Glazer, 2009). Pressures for an athlete to return too soon after injury can increase anxiety (Hamson-Utley, et al., 2008).

Conclusion

Certified athletic trainers clearly express the concern about their ability to counsel athletes during the injury process (Cramer-Roh, & Perna, 2000; Daly, et al., 1995; Furney, & Patton, 1995; Moulton, et al., 1997; Stiller-Ostrowski, & Ostrowski, 2009; Weiss, & Troxel, 1986). The need for education on psychological skills training is essential and the NATA Educational Committee has incorporated competencies into Athletic Training Programs to accommodate this need. Injury can change the way athletes view themselves and how they recover can be effected by many different things. The athletic trainer is an essential person in the rehabilitation process because of the intimate relationship that they have with athletes daily. Coaches can also play a big role in how an injury affects an athlete and a supportive and knowledgeable coach will create a positive environment for the athlete and ultimately change the athlete's perspective on being hurt. Friends, family and teammates are also important people in an athlete's life after injury and if these relationships stay positive, despite an injury, there will be an overall better rehabilitation process and a more positive experience for the injured athlete. Returning to play after injury can be very stressful for athletes, the people involved in this process can alleviate stresses and this can start with an athletic trainer who understands the emotional aspect of injury and can create mental rehabilitation programs that allows athletes to first address their stress and then learn the physical requirements of getting better.

CHAPTER THREE

METHODOLOGY

Introduction

The purpose of this study was to investigate the identity measurement scores of certified athletic trainers and students within the athletic training profession in order to examine confidence, competence, and the attitudes they have toward different aspects of their professional identity. This chapter discusses the methods and procedures of the study. The statement of the problem, subjects, instruments, protocol, data collection and analysis will be presented.

Statement of the Problem

There is a plethora of research in the area of exercise science that focuses on athletic identity in the "athlete" population but very little evidence is available pertaining to athletic trainers who work with these athletes and the views that they have of their role as a healthcare professional (Johnston, & Carroll, 2000; Lockhart, 2010; Niemi, 1997; Stoltenburg, et al., 2011).

Subjects

The study surveyed 57 certified athletic trainers and 148 undergraduate AT students for a total of 205 surveys. These subjects were recruited from 4 different collegiate athletic levels; NCAA Division I: 112, NCAA Division II: 47, NCAA Division III: 25 and NAIA: 21. The study also explored differences in identity and perceptions for three different career roles within the profession: undergraduate AT students, graduate ATs, full-time AT/Professors of AT. Data was also categorized based upon years of experience working in the field of athletic training to attempt to normalize the data provided by students and certified professionals.

The subjects were recruited from the following 11 universities based on the researcher's connections to each university. Missouri State University [107], Lindenwood University [47], Lindenwood-Belleville [20], UT-Dallas [2], Adrian [1], Whitworth University [18], Buena Vista [1], Calvin College [2], Luther College [1], Westminster [1] and Boise State University [5]. The researcher only used connections to each university to allow an increase in the number of surveys completed and returned but in no way used connections in order to influence the results of the study. All surveys were completed by the subjects anonymously and grouped based on collegiate level and years of experience in athletic training.

Each participant was required to give a written informed consent using a form approved by Lindenwood University's Institutional Review Board (IRB) prior to their involvement in this study. A copy of the IRB form is attached in Appendix A.

Table 1 represents a summary of the subject characteristics for the study.

Table 1: Subject Characteristics for Study Participants

Variable	N	% of group
School		
Lindenwood University	47	22.9
Lindenwood-Belleville	20	9.8
Missouri State University	107	52.2
University of Texas at Dallas	2	1.0
Adrian College	1	0.5
Calvin College	2	1.0
Whitworth University	18	8.8
Buena Vista University	1	0.5
Westminster College	1	0.5
Luther College	1	0.5
Boise State University	5	2.4
Setting		
NAIA	21	10.2
NCAA DI	112	54.6
NCAA DII	47	22.9
NCAA DIII	25	12.2
Position		
Undergraduate AT	148	72.2
Graduate AT (certified)	26	12.7
Full-time/Professor AT (certified)	31	15.1
Gender		
Male	94	45.9
Female	110	53.7

Table 2 represents the reliability analysis for subscales.

Table 2: Reliability Analysis for Subscales

Subscale	Chronbach's Alpha
Identity	
Total Sample	0.62
Certified Athletic Trainers	0.76
Non-Certified Athletic Trainers	0.62
Confidence	
Total Sample	0.89
Certified Athletic Trainers	0.72
Non-Certified Athletic Trainers	0.88
Competence	
Total Sample	0.91
Certified Athletic Trainers	0.76
Non-Certified Athletic Trainers	0.91

The above table represents a reliability analysis for study subscales. In the social sciences Chronbach's alpha coefficients of 0.60 and above are considered acceptable (Babbie, 1992).

Threats to Internal Validity

The following data table provides a summary of the threats to valid inference. All of the threat tests were conducted and controlled as well as possible. Table 3 represents a complete listing of the threats to internal validity assessed.

Table 3: Threats to Internal Validity

Threats	Controlled	Explanation
History	No	Participants may not have been exposed to Sport Psychology in academic training
Maturation	Yes	Respondents were asked to indicate years involved in athletic training
Testing	Partially	Study participants were asked to self-report answers to questions
Instrumentation	Yes	Same survey tool was used with all participants and schools
Statistical Regression	Yes	All participants were athletic trainers or students within an AT program
Selection Bias	No	Participants were invited by convenience sample method to be a part of the study
Morality	Partially	Study participants were invited but not forced to complete surveys
Casual Time Order	Yes	Data was collected within timely data collection window as defined by research proposal
Diffusion	No	Participants were all Athletic Trainers or students seeking AT certification through NATABOC
Demoralization	Yes	Participants did not experience any negative treatment or treated unfairly
Compensatory Rivalry	No	Not relevant to the study
Compensation	Yes	Neither group was provided compensation for participation

Statistical Treatment of Data

The Athletic Trainer Identity Measurement Scale (ATIMS) was adapted from a previously utilized tool that was created to assess the "athletic identity" of athletes within their sport. This is known as the "Athletic Identity Measurement Scale" or AIMS, which has previous research supporting its reliability and validity for assessment of athletic identity (Brewer, & Cornelius, 2001). This study used what was already created for athlete identity assessment and creatively adapted the existing tool by including three more assessment points in order to create a tool that can be used to evaluate athletic trainers and the ideals in which they hold true pertaining to their profession. The original AIMS contained seven questions that measure identity on a personal level and these same questions were adapted specifically to reference the subjects' vocational role. This study used those seven questions and added 17 more questions that would attempt to assess confidence, competence and attitudes toward sport psychology as it relates to vocational identity as an Athletic Trainer. The ATIMS survey contains seven identity questions (as mentioned above), six confidence questions, six competence questions and five questions that assess attitudes towards sports psychology. A total of 24 survey questions comprised the research instrument. The final two questions on the survey were largely confirmative validity questions. The data was analyzed upon completion of data collection.

Instruments

The ATIMS survey was used as the tool for recording data and is presented in the attached file (Appendix B). The scoring of the identity survey was created on a subjective Likert-scale ranging from 1-7 (Strongly Disagree to Strongly Agree). There were two content validity questions added to the end of the survey to validate the integrity of the instrument.

Data Collection Procedures

Data collection began in early February 2015, and continued until the beginning of April 2015. Once all data was collected it was coded and entered using Statistical Package for the Social Sciences (18.0). Data was organized using a number labeling system that represented each individual survey question and categorical factor. When a survey was completed it was either delivered by hand or received via email from each participant along with their informed consent. The surveys were not identified with the name of any of the participants when they were collected, the only identifiable factor included in each survey is the name of the school in which the person completing the survey worked and the number of years that they had been at said school. The data collection methodology used was basic survey research using a convenience sample of schools located in the immediate vicinity or to which the principal investigator had professional contact relationships.

Data Analysis Procedures

Data was analyzed using Statistical Package for the Social Sciences (18.0). In order to address the research hypothesis, a series of comparative independent sample t-tests and an Analysis of Variance (ANOVA) was used to determine whether differences existed between groups. The comparison groups included school division, job responsibility, years committed to athletic training, gender, and academic preparation. Additional correlational analysis was conducted to assess whether athletic trainer identity development was related to confidence, competency, or professional preparation.

Summary

This was an exploratory study examining the responses of a subjective survey completed by athletic trainers and undergraduate students in an athletic training program in order to

determine the professional identity that ATs hold within their career. All of the subjects completed only one survey, no follow-up was required for participation. The hypotheses tested was that there is a disconnect with the education required for an athletic trainer in the realm of sports psychology and the attitudes towards sports psychology as an important part of the job of an athletic trainer.

Higher numbers on the Likert-scale are indicative of agreement with the question at hand; lower numbers represent disagreement to the question at hand. The outcomes of this study were designed to determine if there is a need for investigation in to why athletic trainers are not well prepared to treat psychological issues despite rating psychology as an important aspect of their job. Furthermore, the researcher looked at whether different levels of collegiate athletics and years of experience influence the identity, confidence, competence and attitude toward sport psychology for athletic trainers and undergraduate athletic training students.

CHAPTER FOUR

RESULTS

Introduction

The purpose of this study was to determine the important aspects of the athletic training profession using survey subscales. The researcher attempted to determine whether different levels of collegiate athletics and years of experience in athletic training had an influence on the strength of an athletic trainer's vocational identity, confidence, competence and their attitude toward sport psychology within the realm of their profession.

The results of the survey subscales were also used to determine whether or not athletic trainers felt as if they were prepared enough to treat psychological issues and if they rated psychology as an important aspect of their job within the profession. The analysis below was used to determine if there is a need for investigation into why athletic trainers are not well prepared to treat psychological issues despite rating psychology as an important aspect of their job.

Hypotheses

H1: Athletic trainers have a specific and measurable vocational identity.

H2: Athletic trainers have a high correlation between perceived confidence and competence in performing their athletic training duties.

H3: Athletic trainers perceive that there is a lack of professional preparation in sport psychology.

Analysis of Data

Table 4 represents a summary of the descriptive statistics for subscales based upon gender. Possible scores on the ATIMS could range from a low of 7 to a high of 49. Possible scores on the Confidence and Competence subscales could range from a low of 6 to a high of 42. Scores on the Sport Psychology Attitude subscale could range from a low of 5 to a high of 35. Finally, Scale 1 and Scale 2 questions ranged in average score from a low of 1 to a high of 10.

Table 4: Descriptive Statistics for Subscales Based Upon Gender

Gender	N	Mean	Std. Dev
Identity			
Male	94	34.22	5.27
Female	110	34.63	5.99
Confidence			
Male	94	30.68	6.93
Female	110	29.03	6.62
Competence			
Male	94	28.47	6.92
Female	110	26.85	7.66
Sports Psych. Attitude			
Male	94	19.64	3.50
Female	110	19.61	3.68
On a scale of 1-10 how would you rate importance of sport psych in AT?			
Male	94	8.15	1.18
Female	110	8.25	1.58

On a scale of 1-10 how would you rate your previous training in sport psychology?			
Male	94	4.30	2.01
Female	110	4.15	2.27

The above table represents average scores obtained for each of the subscales. It was interesting to note that females in the sample identified a little higher than males as athletic trainers. However, subscales for confidence, competence, and attitude towards Sport Psychology all generated higher scores for male study participants.

Table 5 represents a summary of the independent samples t-test statistical analysis for survey subscales based upon gender.

Table 5: Comparison of Means for Survey Subscales Based Upon Gender

Subscale	Sig.(2-tailed)	Mean Dif.	t	df
Identity	0.605	-.413	-.518	202
Confidence	0.085	1.650	1.732	201
Competence	0.117	1.623	1.576	202
Attitude Toward Sport Psych	0.954	0.029	0.058	202
On a scale of 1-10 how would you rate importance of sport psych in AT?	0.601	-.104	-.524	201

On a scale of 1-10 how would you rate your previous training in sport psychology?	0.614	.156 .505	201

An independent samples t-test was used to determine whether there was a statistically significant difference between gender groups for the ATIMS Identity Scale and the two Scaling questions. No significant difference was found for the ATIMS subscales based upon gender.

Table 6 represents a summary of the descriptive statistics for ATIMS based upon certification status.

Table 6: Descriptive Statistics for ATIMS Based Upon Certification Status

Certification	N	Mean	SD
Identity			
Certified	57	35.49	6.79
Non-Certified	148	34.08	5.14
Confidence			
Certified	57	36.02	3.63
Non-Certified	148	27.45	6.20
Competence			
Certified	57	33.61	4.26
Non-Certified	148	25.33	7.01

Sports Psych. Attitude			
Certified	57	20.32	3.87
Non-Certified	148	19.38	3.45

On a scale of 1-10 how would you rate importance of sport psych in AT?

Certified	57	8.32	1.38
Non-Certified	148	8.16	1.41

On a scale of 1-10 how would you rate your previous training in sport psychology?

Certified	57	5.09	1.88
Non-Certified	148	3.87	2.20

As expected, the average scores for identity development, confidence, competence, and attitudes towards sport psychology were all higher for certified athletic trainers when compared to undergraduate-non certified trainers.

Table 7 represents a summary of the independent samples t-test statistical analysis for survey subscales based upon certification status.

Table 7 : Comparison of Means for Survey Subscales Based Upon Certification Status

Subscale	Sig.(2-tailed)	Mean Dif.	T	df
Identity	0.110	1.410	1.604	203
Confidence	0.000***	8.565	9.722	202
Competence	0.000***	8.283	8.342	203
Attitude Toward Sport Psych	0.094	0.937	1.683	203
On a scale of 1-10 how would you rate importance of sport psych in AT?	0.487	0.153	0.696	202
On a scale of 1-10 how would you rate your previous training in sport psychology?	0.000***	1.217	3.689	202

Note. *p<.05; **p<.01; ***p<.001.

An independent samples t-test was used to determine whether there was a statistically significant difference between equity of means within certification status groups. There was a significant difference was found for the confidence and competence subscales and for scale question number 2 (previous training in sport psychology).

Table 8 represents descriptive statistics for survey subscales based upon AT status.

Table 8: Descriptive Statistics for Subscales Based Upon Athletic Training Status

Variable	N	Mean	SD	Minimum	Maximum
Identity					
Undergraduate	148	34.08	5.14	17.00	46.00
Graduate	26	37.15	5.87	21.00	48.00
Full-Time	31	34.10	7.27	14.00	49.00
Total	205	34.47	5.66	14.00	49.00
Confidence					
Undergraduate	148	27.45	6.20	8.00	41.00
Graduate	25	33.92	2.71	29.00	40.00
Full-Time	31	37.71	3.42	30.00	42.00
Total	205	29.80	6.79	8.00	42.00
Competence					
Undergraduate	148	25.33	7.01	7.00	42.00
Graduate	25	31.81	3.81	25.00	39.00
Full-Time	31	35.13	4.08	26.00	42.00
Total	205	27.63	7.36	7.00	42.00
Sports Psych. Attitude					
Undergraduate	148	19.38	3.45	10.00	27.00
Graduate	25	21.12	4.23	11.00	27.00
Full-Time	31	19.65	3.48	14.00	28.00
Total	205	19.64	3.59	10.00	28.00
On a scale of 1-10 how would you rate importance of sport psych in AT?					
Undergraduate	148	8.16	1.14	4.00	10.00
Graduate	25	8.35	1.29	6.00	10.00
Full-Time	31	8.29	1.47	3.00	10.00
Total	205	8.21	1.40	3.00	10.00
On a scale of 1-10 how would you rate your previous training in sport psychology?					
Undergraduate	148	3.87	2.20	1.00	10.00
Graduate	25	5.54	1.58	2.00	8.00
Full-Time	31	4.71	2.05	2.00	8.00
Total	205	4.21	2.18	1.00	10.00

To address the research hypothesis looking at athletic training status, an Analysis of Variance

(ANOVA) was used to determine whether differences existed between groups. A summary of the

results are included in the following tables.

Table 9 represents ANOVA analysis based upon Athletic Training status for survey subscales.

Table 9: ANOVA Table for Comparison of Job Position Groups for Survey Subscales

Variable	Sum of Squares	df	Mean Square	F	Sig.
Identity					
Between Groups	213.981	2	106.991	3.418	.035*
Within Groups	6323.121	202	31.303		
Total	6537.102	204			
Confidence					
Between Groups	3179.261	2	1589.630	51.778	.000***
Within Groups	6170.896	201	30.701		
Total	9350.157	203			
Competence					
Between Groups	2979.262	2	1489.631	37.239	.000***
Within Groups	8080.299	202	40.001		
Total	11059.561	204			
Sports Psych. Attitude					
Between Groups	66.726	2	33.363	2.630	.075
Within Groups	2562.561	202	12.686		
Total	2629.288	204			
On a scale of 1-10 how would you rate importance of sport psych in AT?					
Between Groups	1.000	2	.500	.252	.777
Within Groups	398.353	201	1.982		
Total	399.353	203			
On a scale of 1-10 how would you rate your previous training in sport psychology?					
Between Groups	70.543	2	35.272	7.936	.000***
Within Groups	893.393	201	4.445		
Total	963.936	203			

Note. *p<.05; **p<.01; ***p<.001. A significant difference was found between the groups for Identity (p< .05), confidence (p<.001), competence (p<.001) and scaling question 2 (p<.001) (previous training in sport psychology).

Least Square Difference (LSD) post-hoc tests were run for those subscales that presented significant F-statistics. A number of statistically significant differences were found between groups. Results of the post-hoc tests are presented in Table 10. Graduate students scored significantly higher in identity than the undergraduate or full-time staff groups. This would suggest that the graduate student-certified trainers identify themselves more as an athletic trainer than the other two groups.

For the "Confidence" and the "Competency" scales, graduate students and full-time staff scored significantly higher than the non-certified undergraduate group. Full-time staff also scored significantly higher for confidence than the graduate group. Graduate students also scored higher on questions relating to sport psychology preparation and attitudes towards using sport psychology as part of athletic training.

Table 10 represents a summary of the post-hoc analysis for athletic trainer status.

Table 10: Post Hoc Analysis (LSD Test) for Survey Subscales Based on Athletic Trainer Status

Dependent Variable	Status 1	Status 2	Significance
Identity	Undergraduate	Graduate	0.011*
	Graduate	Undergraduate	0.011*
		Full-Time	0.041*
	Full-Time	Graduate	0.041*
Confidence	Undergraduate	Graduate	0.000***
		Full-Time	0.000***
	Graduate	Undergraduate	0.000***
		Full-Time	0.012*
	Full-Time	Undergraduate	0.000***
		Graduate	0.012*
Competence	Undergraduate	Graduate	0.000***
		Full-Time	0.000***
	Graduate	Undergraduate	0.000***
		Full-Time	0.050*
	Full-Time	Undergraduate	0.000***
		Graduate	0.050*
Sport Psych. Attitude	Undergraduate	Graduate	0.023*
	Graduate	Undergraduate	0.023*
On a scale of 1-10 how would you rate your previous training in sport psychology?	Undergraduate	Graduate	0.000***
		Full-Time	0.045*
	Graduate	Undergraduate	0.000***
	Full-Time	Undergraduate	0.045*

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

Table 11: Descriptive Statistics for Survey Subscales Based Upon School Division

Division	N	Mean	SD	Minimum	Maximum
Identity					
NAIA	21	32.33	5.31	29.00	49.00
NCAA DI	112	34.08	4.85	21.00	48.00
NCAA DII	47	37.06	5.65	20.00	48.00
NCAA DIII	25	30.64	6.99	14.00	43.00
Total	205	34.47	5.66	14.00	49.00
Confidence					
NAIA	21	33.19	5.35	22.00	42.00
NCAA DI	112	27.48	6.87	8.00	42.00
NCAA DII	47	32.50	5.26	17.00	42.00
NCAA DIII	25	32.40	6.28	21.00	42.00
Total	205	29.80	6.79	8.00	42.00
Competence					
NAIA	21	32.00	6.20	15.00	42.00
NCAA DI	112	25.14	7.80	7.00	42.00
NCAA DII	47	30.64	5.06	19.00	42.00
NCAA DIII	25	29.48	5.64	20.00	40.00
Total	205	27.63	7.36	7.00	42.00
Sports Psych. Attitude					
NAIA	21	20.05	3.81	14.00	28.00
NCAA DI	112	19.77	3.47	10.00	27.00
NCAA DII	47	19.68	3.96	11.00	27.00
NCAA DIII	25	18.64	3.20	11.00	24.00
Total	205	19.64	3.59	10.00	28.00
On a scale of 1-10 how would you rate importance of sport psych in AT?					
NAIA	21	8.05	1.20	5.00	10.00
NCAA DI	112	8.16	1.37	4.00	10.00
NCAA DII	47	8.45	1.44	4.00	10.00
NCAA DIII	25	8.08	1.66	3.00	10.00
Total	205	8.21	1.40	3.00	10.00
On a scale of 1-10 how would you rate your previous training in sport psychology?					
NAIA	21	4.95	1.91	1.00	7.00
NCAA DI	112	3.94	2.23	1.00	10.00
NCAA DII	47	4.43	2.03	1.00	7.00
NCAA DIII	25	4.40	2.36	1.00	8.00
Total	205	4.21	2.18	1.00	10.00

Table 12 represents a summary of the comparison of school division for survey subscales.

Table 12: ANOVA Table for Comparison of School Division For Survey Subscales

Variable	Sum of Squares	df	Mean Square	F	Sig.
Identity					
Between Groups	715.59	3	238.53	8.24	0.000***
Within Groups	5821.51	201	28.96		
Total	6537.102	204			
Confidence					
Between Groups	1347.45	3	449.15	11.23	0.000***
Within Groups	8002.70	200	40.01		
Total	9350.16	203			
Competence					
Between Groups	1604.76	3	534.91	11.37	0.000***
Within Groups	9454.81	201	47.04		
Total	11059.56	204			
Sport Psych. Attitude					
Between Groups	30.40	3	10.13	0.784	0.504
Within Groups	2598.89	201	12.93		
Total	2629.29	204			
On a scale of 1-10 how would you rate importance of sport psych in AT?					
Between Groups	3.86	3	1.29	0.651	0.583
Within Groups	395.49	200	1.981		
Total	399.35	203			
On a scale of 1-10 how would you rate your previous training in sport psychology?					
Between Groups	22.94	3	7.65	1.63	0.185
Within Groups	941.00	200	4.71		
Total	936.94	203			

Note. $*p < .05$; $**p < .01$; $***p < .001$. A significant ANOVA was found between groups for identity, confidence and competence.

Table 13 represents a summary of the multiple comparisons between School Division and survey subscales.

Table 13: Multiple Comparisons Between School Division and Survey Subscales

Variable	Setting 1	Setting 2	Significance
Identity	NAIA	NCAA DIII	0.004**
	NCAA DI	NCAA DII	0.002**
		NCAA DIII	0.004**
	NCAA DII	NCAA DI	0.002**
		NCAA DIII	0.000***
	NCAA DIII	NAIA	0.004**
		NCAA DI	0.004**
		NCAA DII	0.000***
Confidence	NAIA	NCAA DI	0.000***
	NCAA DI	NAIA	0.000***
		NCAA DII	0.000***
		NCAA DIII	0.001**
	NCAA DII	NCAA DI	0.000***
	NCAA DIII	NCAA DI	0.001**
Competence	NAIA	NCAA DI	0.000***
	NCAA DI	NAIA	0.000***
		NCAA DII	0.000***
		NCAA DIII	0.005**
	NCAA DII	NCAA DI	0.000***
	NCAA DIII	NCAA DI	0.005**

Note. $*p<.05$; $**p<.01$; $***p<.001$.

A multiple comparison Post hoc test (Least Square Difference) was performed to determine if there were any differences between groups based on subscales and school division. Overall there were twenty (20) significant differences based upon school classification.

The most notable differences included NCAA Division II athletic trainers scoring significantly higher in identity than both NCAA Division I and NCAA Division II schools. Another interesting note was that athletic trainers at the NCAA Division I level scored significantly lower than the other divisions on self-appraisals of both confidence and competence.

Table 14 represents the correlation between confidence and competence in athletic training.

Table 14: Correlation Analysis for Survey Subscales of Confidence and Competence

Subscale	Confidence	Competence
Confidence		
Pearson Correlation	1	0.818
Sig. (2-tailed)		0.000***
N	204	204
Competence		
Pearson Correlation	0.818	1
Sig. (2-tailed)	0.000***	
N	204	205

Note. *p<.05; **p<.01; ***p<.001.

There was a statistically significant Pearson Correlation coefficient calculated and determined by SPSS between self-appraisals of confidence and competence (.818).

Table 15 represents the correlation between confidence and identity in athletic training.

Table 15: Correlation Analysis for Survey Subscales of Identity and Confidence

Subscale	Identity	Confidence
Identity		
Pearson Correlation	1	0.305
Sig. (2-tailed)		0.000***
N	205	204
Confidence		
Pearson Correlation	0.305	1
Sig. (2-tailed)	0.000***	
N	204	204

Note. *p<.05; **p<.01; ***p<.001.

There was a statistically significant Pearson Correlation coefficient calculated and determined by SPSS between self-appraisals of confidence and identity (.305).

Table 16 represents the correlation between competence and identity in athletic training.

Table 16: Correlation Analysis for Survey Subscales of Identity and Competence

Subscale	Identity	Competence
Confidence		
Pearson Correlation	1	0.315
Sig. (2-tailed)		0.000***
N	205	205
Competence		
Pearson Correlation	0.305	1
Sig. (2-tailed)	0.000***	
N	205	205

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

There was a statistically significant Pearson Correlation coefficient calculated and determined by SPSS between self-appraisals of identity and competence (.315).

Table 17 represents the correlation between years of experience and identity formation.

Table 17: Correlation Analysis for Survey Subscales of Experience and Identity

Subscale	Years of Experience	Identity
Confidence		
Pearson Correlation	1	0.032
Sig. (2-tailed)		0.652
N	203	203
Competence		
Pearson Correlation	0.032	1
Sig. (2-tailed)	0.652	
N	203	205

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

Surprisingly, there was no statistically significant Pearson Correlation coefficient found between years of experience and identity formation.

Summary

Following the analyses, there were significant differences with independent t-tests that supported each of the hypotheses stated in the study. There was also a noted disconnect between scale questions that lead to an interesting discussion. Chapter Five will further investigate the results of the analyses and discuss the rationales. The chapter will also discuss the purpose of this study and the increased need for future research on the topic.

CHAPTER FIVE

DISCUSSION

This was an exploratory study examining the responses of a subjective survey completed by athletic trainers and undergraduate students from select athletic training programs. The purpose of this research study was to develop an understanding of how athletic trainers identify themselves in a vocational context. Additionally, this research was designed to explore perceptions of self-confidence, competence, and the attitudes athletic trainers have towards the practice of sport psychology within their professional field. Athletic trainers and undergraduate students who participated in the "Athletic Trainer Identity Measurement Scale" survey were able to subjectively determine what aspects of their job are most important to them professionally. The results of the ATIMS increased the understanding of whether or not there is a disconnect between educational preparedness (higher scores in confidence and competence) and vocational identity.

There were three original research hypotheses that were tested during this study: H1: Athletic trainers have a specific and measurable vocational identity. H2: Athletic trainers have a high correlation between perceived confidence and competence in performing their athletic training duties. H3: Athletic trainers perceive that there is a lack of professional preparation in sport psychology. The data was gathered in the Spring of 2015 and data analysis occurred after the last survey was received. The data was analyzed using Statistical Package for the Social Sciences (18.0). In order to gather data, subjects from 4 different collegiate settings were asked to participate by filling out a 26-question survey that was created by the primary researcher. All of the subjects completed only one survey and no follow-up was required for participation. The survey consisted of 4 subscale categories: (1) athletic trainer identity,

(2) confidence, (3) competence and (4) attitude toward sport psychology, each of which was analyzed separately at times during data analysis.

The subject population consisted of 31 full-time athletic trainers, 26 graduate student athletic trainers, or 57 ATCs and 148 undergraduate students (non-certified) enrolled in an athletic training program for a total N= 205. The subjects were taken from different collegiate levels that included: NAIA, NCAA Division I, NCAA Division II and NCAA Division III. This discussion section will present significant findings and interpret results of the study. Limitations of the study will be presented along with suggestions for future research and associated practical implications.

Results and Rationales

Table 1 lists the characteristics of the subjects of the study. An important note about the subjects is listed in the delimitations section. There was not a discriminatory factor for students within an athletic training program who participated in the study. The limiting factor here is that younger students who are still not quite decided on what they would like to do with their future, and may not continue with the program, are in fact included in this study. This is not something that was controlled for because the sample size for undergraduate students is large, therefore the number of first year students will be leveled out by the other students in the program and the results should still be representative of the entire student sample. The largest sample came from the NCAA DI setting and Missouri State University (52.2%), this is probably due to the fact that they included every student in the ATP as well as all of the certified ATCs that work at the university. Of the total sample, the spread between males and females was fairly evenly distributed, 110 female subjects vs. 94 male subjects. The study did have a slightly increased

number of students compared to certified athletic trainer responses due to the fact that the samples were gathered from the collegiate setting and because this is an exploratory study. The survey was designed to be subjective; any experience level was able to participate.

Table 2 is a reliability analysis for the subscales of the ATIMS. The table represents the survey scale itself (ATIMS) and the reliability of each subscale based on total sample, certified athletic trainers and non-certified athletic trainers (Babbie, 1992). The subscale is considered acceptable in social sciences if Chronbach's alpha coefficient is at or above 0.60 (Babbie, 1992). Each subscale introduced in this study (see table 2) was considered acceptable which means the questions that are within each section are actually asking what they intend to be asking without a gray area causing confusion (Babbie, 2010).

Table 3 represents the threats to the internal validity of the study. The items listed in this table could not be controlled for the entirety of the study and those that threaten the valid inference of the procedures are as follows: history (a person not having exposure to sport psychology in the past), selection bias (recruitment for the study was done by convenience sample) and lastly, diffusion (all subjects must be ATs or AT students).

To address the research hypothesis, a series of comparative independent samples t-tests and an Analysis of Variance (ANOVA) was used to determine whether differences existed between groups. Tables 5 and 7 summarize the comparative independent samples t-tests for gender and certification status for the subscales. There was a significant difference between the confidence, competence and scaling question 2 subscale scores for certification status. Interpretation: Certified athletic trainers express more confidence, competence and feel more trained in sport psychology than undergraduate students feel when asked subjectively by the

ATIMS. Logically, this statistical difference makes sense, a certified athletic trainer is a healthcare professional whereas a student is not yet qualified to work without the supervision of a certified athletic trainer and would therefore have a lower score for confidence and competence as well as feel less trained in certain areas (Prentice, & Arnheim, 2008).

Descriptive statistics for survey subscales were summarized in tables 4, 6, 8 and 11. The reason descriptive statistics are important is because they allow the researcher to summarize the data in a meaningful way in order to determine if there is a pattern emerging. Descriptive statistics do not allow researchers to draw conclusions on the hypotheses but are effective in describing what it is the data is telling them. In these tables, the minimum and maximum scores were as follows: identity (7 to 49), confidence (6 to 42), competence (6 to 42) and attitude toward sport psychology (5 to 35). Among the two scaling questions, a minimum score of 1 and a maximum score of 10 were possible. Despite the fact that conclusions cannot be drawn directly from the descriptive statistics in these tables, there is an interesting comparison being made that will have further investigation later in this chapter. For scale question 1, the mean score of the survey question was 8.21 out of the possible 10 and for scale question 2, the mean score of the survey question was 4.21 out of the possible 10. Just looking strictly at numbers here, there is clearly a higher response to the importance of sport psychology within the profession than there is with actual training in the realm of sport psychology. This presents a possible need for further investigation for this relationship.

To test the hypothesis that athletic trainers have a specific and measurable vocational identity an analysis of variance was completed for comparison of athletic training status and survey subscales which is shown in Table 9. There was a significant difference between the

different groups for job position: full-time, graduate ATs and undergraduate students when compared together for the identity, confidence, competence, and scaling question 2 subscales. This data is representative of how full-time ATs, graduate ATs and undergraduate students identify with their job. The statistics show that there is an identifiable difference in subjective view of school or job position, and vocational identity. In this case, full-time athletic trainers scored higher than both graduate ATs and undergraduate students in confidence and competence. Graduate ATs scored higher than full-time ATs and undergraduate students in identity, attitude toward sport psychology as well as scaling question 2 (rating of previous training in sport psychology). Undergraduate students did not score higher than full-time nor graduate ATs in any of the subscales that were statistically significant.

Table 10 and 11 represent the statistics that are used to determine whether or not there was a significant difference in subscale groups by athletic training status. In order to test this hypothesis, a multiple comparison Post hoc ANOVA was used. There were 22 significant differences when comparing the subscale groups with AT status. Interpretation of this tells the researcher that subjects who have one job position (undergraduate student, graduate AT or Full-Time AT) had different survey results by subscale category when compared to the other job positions in the study. For example: For the identity subscale, Full-Time AT scores were significantly different from that of both undergraduates and graduate ATs. Interpretation of these results tells the researcher that Full-Time ATs identity themselves as an athletic trainer more often than graduates and undergraduates. In the confidence and competence subscales, all 3 groups scored significantly different from each other. Confidence and competence will change as a person progresses from their undergraduate program to a graduate assistantship and on to a full-time position.

Undergraduates and Graduates had a significant difference in the subscale for attitude toward sport psychology. This is an interesting point that should be further analyzed (see Appendix C). For scaling question number 2 (previous training in sport psychology) the only groups that did not have a significant difference were graduates and full-time staff. For the survey scaling questions there is again an interesting note for the importance of sport psychology with a rating of 8.21 out of 10 in question one and only a perceived preparedness rating of 4.21 out of 10 for scale question number two.

Table 12 represents whether or not there was a significant difference in subscales with groups divided up by school division (NAIA, NCAA DI, DII, DIII). In order to test this hypothesis, a multiple comparison Post hoc ANOVA was run. After analysis, there was a significant difference for each of the groups ---NAIA, NCAA DI, DII and DIII for the subscale categories identity, confidence and competence. Athletic trainers from schools that are within different athletic divisions report different ratings for confidence, competence and identity within the realm of athletic training.

Table 13 represents the statistics that were used to determine whether or not there was a significant difference in subscales with groups and school division. In order to test this hypothesis, a multiple comparison Post hoc ANOVA was used. There were 20 significant differences when comparing the subscale groups with school division. Interpretation of this tells the researchers that ATs who work in different collegiate divisions (NAIA, NCAA DI, DII, DIII) perceive themselves differently from that of other ATs who work in another collegiate division. The NAIA had the least amount of variance with significant differences to other school divisions, only having statistical significance with DIII for identity measures, and DI for confidence and

competence. The NAIA actually showed a higher confidence measure than the DI level with 33.19 out of 49.00 vs. 27.48 out of 49.00. This is an interesting finding that could potentially be related to the fact that more undergraduate students at the NCAA DI level were involved in the study than NAIA undergraduate students leading to a higher confidence score on the NAIA side.

Tables 14, 15, 16 and 17 represent the correlation analysis for survey subscales. Confidence and competence have a significant correlation at $p=0.000$ ($p<0.01$). ATIMS – identity measures and confidence have a significant correlation at $p=0.000$ ($p<0.01$). ATIMS—identity measures and competence have a significant correlation at $p=0.000$ ($p<0.01$). The relationship that did not show a correlation based off of a Pearson Correlation was ATIMS—identity measures and years of experience ($p=0.652$; $p<0.01$).

After statistical analysis, it can be determined that vocational identity can be affected by confidence, competence and the attitudes that athletic trainers, and undergraduate students have toward sports psychology. Using the ATIMS, each subscale compared with groups provided the researcher with more avenues of analysis than what was particularly hypothesized. It was thought that if a person rated higher in confidence then they would also perceive themselves as a more competent athletic trainer.

Limitations of the Study

While the study had a qualitative design that did not require post-testing and was taken from a convenience sample, there were still some limitations that should be addressed. One aspect of the study that had an effect was the limited timeframe for data collection which in turn produced a relatively small sample size when considering the size of the study population across the United States. If this study was extended through the summer of 2015 there is a potential that

it could be distributed at the National Convention for NATA and increase the sample size exponentially. Another limitation is that the use of a quantitative data collection instrument does not allow for deeper probing or clarification on question topics. This is especially true because of the random sample attempt that this study focused on. This did not allow for the subjects to fill out the survey in the presence of the researcher leaving potential questions and clarification unanswered.

An uncontrolled limitation was that of academic preparation in athletic training programs. Despite the fact that there are minimum standards that all CAATE accredited schools must meet to remain eligible for accreditation, every school throughout the country will have varying coursework outside of the minimum requirement (NATA, 1993; Prentice, & Arnheim, 2008). This leads to schools potentially having different class requirements for students despite all students having to meet similar NATABOC criteria. The next limitation that may have affected the data was the distribution of the surveys. The ATIMS was given to all levels of students within the AT program despite time of experience within the athletic training setting; first-year students might have swayed the results because of the lack of knowledge of certain content areas to support their responses (Prentice, & Arnheim, 2008).

Recommendations and Implications of the Future

There is clearly a higher rated response to the importance of sport psychology as it relates to athletic training, than there is with the actual training in the realm of sport psychology (see Appendix C). This presents a possible need for further investigation into this relationship. CAATE accreditation requirements have been well established over the years but the mean scores for the scaling questions in this study have created a question as to whether athletic

trainers actually have enough required coursework in the topic of psychology, especially psychology relating to injured athletes. Because the basic understanding of psychology/counseling is such a specific competency of the profession, perhaps it should be looked at by future studies as a possible new competency domain in itself (CAATE, 2012; Prentice, & Arnheim, 2008). This domain would include recognition, treatment options and necessary referral plans for psychological distress. By creating a psychological domain, athletic trainers would have an increase in coursework relating to the recognition of specific psychological distress and basic treatment for these issues within their scope of practice (Cramer-Roh, & Perna, 2000). The reason this topic should be examined further is because there needs to be a definitive line drawn that ATs understand about what they should and should not attempt to treat in terms of psychological distress. As stated in the literature review, an athletic trainer should not try to do everything, they must become proficient at each aspect of their job and this includes an understanding of when it is necessary to bring in another professional to help – when to refer (Stiller-Ostrowski, & Ostrowski, 2009). With the proper coursework and training in psychological skills and recognition techniques, athletic trainers can become more effective at their job not only in the sense of protecting an athlete who needs help but in creating an environment conducive to mental rehabilitation which as discussed earlier, is just as important in some ways as physical rehabilitation (Glazer, 2009; Hamson-Utley, et al., 2008).

Another area that should be considered for further investigation is the responses of the subscales questions when compared to school division. There were significant differences between athletic trainers who worked at different collegiate levels (i.e. NAIA vs. NCAA DI) and how they viewed themselves vocationally. Does the level or division in which a person works, influence how they perceive their job? A study needs to be conducted that controls for previous

education and training while looking at how the professionals see themselves in their career. This point creates another study that would be beneficial in backing up what the current study is detailing; how much does previous training and preparedness change the identity of what an athletic trainer perceives as important in their job? Does a more trained and more "knowledgeable person" have a higher vocational identity than someone who is less trained? This would be an interesting point of view to look at due to the fact that the more skilled athlete does not always have a higher athletic identity than a less skilled athlete (Crossman, 1997; Lockhart, 2010; Madrigal, & Gill, 2014).

Conclusion

This was an exploratory study examining the responses of a subjective survey completed by athletic trainers and undergraduate students from select athletic training programs. Athletic trainers and undergraduate students who participated in the "Athletic Trainer Identity Measurement Scale" survey were able to subjectively determine what aspects of their job are most important to them professionally. Additionally, the scale was developed as a way to explore perceptions of self-confidence, competence, and the attitudes athletic trainers have towards the practice of sport psychology within their professional field. The results of the ATIMS increased the understanding of whether or not there is disconnect between educational preparedness (higher scores in confidence and competence) and vocational identity.

Certified athletic trainers clearly express the concern about their ability to counsel athletes during the injury process (Cramer-Roh, & Perna, 2000; Daly, et al., 1995; Furney, & Patton, 1995; Moulton, et al., 1997; Stiller-Ostrowski, & Ostrowski, 2009; Weiss, & Troxel, 1986). This research study presents statistical data that exemplifies the need

for psychological education in athletic training. The NATA Educational Committee previously has incorporated competencies into Athletic Training Programs to accommodate this need but disconnect is still obvious when these medical professionals as well as students are asked about their attitude when it comes to sport psychology (NATA, 2014).

The first investigational hypothesis was correct in measuring athletic trainer vocational identity. According to the ATIMS, athletic trainers and athletic training students differ in the idea of what their specific job means in term of their identity. There was a significant difference for subscales based upon the athletic training status of the subject. When compared together for identity, confidence, competence, and their previous training in sport psychology, full-time ATs, graduate ATs and undergraduate students rated differently per subscale. This data is representative of the difference in how full-time ATs, graduate ATs and undergraduate students identify themselves in reference to their job. Vocational identity is also affected by school division according to the survey numbers. These statistics show that there is an identifiable difference in athletic training status, school division, when determining vocational identity. By having a higher score in the subscale areas, the certified athletic trainers show a higher vocational identity than the noncertified undergraduate athletic training students.

The second investigational hypothesis that was tested was whether or not there is a high correlation between perceived confidence and competence when athletic trainers do their job. According to the ATIMS, the higher the subject scored in the confidence subscale the higher they also scored in the area of competence. Significance was found for confidence and competence as correlation analysis was proved. Certified athletic trainers express more confidence, competence and feel more trained in sport psychology than undergraduate students feel when asked by the

ATIMS. Logically, this difference makes sense; a certified athletic trainer is a healthcare professional, whereas a student is not yet qualified to work without the supervision of a certified athletic trainer. Therefore undergraduate athletic training students tend to have a lower score for confidence and competence as well as feel less trained in certain areas than certified ATs (Prentice, & Arnheim, 2008).

When the third investigational hypothesis was tested, the ATIMS survey showed an interesting result. The hypothesis was correct after data analysis of the survey; athletic trainers do feel there is a lack of professional preparation in the area of sport psychology which is represented by a higher rating of importance versus a lower rating of previous training in sport psychology. This data states that although ATs feel sport psychology is important to perform their job effectively they still feel as if they are not well prepared to deal with said psychological issue competently. Of all of the findings that this study presents, this fact is the most interesting. Certified athletic trainers and undergraduate students alike feel that psychological rehab is important when physical rehab is being performed post-injury (Daly, et al., 1995; Moulton, et al., 1997). Despite the importance noted by many professionals, psychology is not well represented in athletic training programs by more than one or two courses throughout the curriculum (CAATE, 2012; NATA 2014). There exists a disconnect between the perception of importance and actual training in sport psychology and this should be brought to the attention of the officials in charge of athletic training programs at the national level. Psychology classes are important to the future of the profession of athletic training, to play a role not only in assisting athletes to a more thorough degree but to increase the confidence and competence of these health care professionals as a group.

The future of athletic training relies upon some of the results of this study. In order for athletic trainers to excel in their profession and to become avid clinicians the area of sport psychology needs to be addressed. From an undergraduate program standpoint, students may not be exposed to more than one general psychology class throughout the entirety of their time in the athletic training program (NATA, 1993; NATA 2014). Sport psychology should be addressed when developing an athletic training program curriculum, the fact that training is lacking in this vital area leads to weakness in the profession. There are other professionals who are trained and well versed in the area of sport psychology and they should be consulted during certain situations with athletes. However, for an athletic trainer to feel that they are not qualified to deal with the general psychological issues that an athlete encounters when they are injured is a weak point in the program standards. This research study allows the discussion for restructuring the way AT programs design curriculums, the discussion is far too important to ignore when using the data the "Athletic Trainer Identity Measurement Scale" brought to light.

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APPENDIX B

Athletic Trainer Identity Scale

Setting: **NAIA**   **NCAADI**   **NCAADII**   **NCAADIII**   Position: **Undergrad-AT**   **Graduate-AT**   **Full-Time-AT**   **Professor-AT**

NATABOC Certified: **YES**   **NO**   Years of Experience in AT (Including educational experience): _____   **Male**   **Female**

Please answer the following questions truthfully as general personal opinions toward athletic training identity, confidence, competence, and attitudes towards sport psychology. Questions are on a 7-point Likert scale ranging from 1=Strongly Disagree to 7=Strongly Agree. Please circle the response that best meets your personal judgment for each question.

	Strongly Disagree			Neutral			Strongly Agree	
1. I consider myself an athletic trainer.	1	2	3	4	5	6	7
2. I have many goals related to athletic training.	1	2	3	4	5	6	7
3. Most of my friends are athletic trainers.	1	2	3	4	5	6	7
4. My career in athletic training is the most important part of my life.	1	2	3	4	5	6	7
5. I spend more time thinking about athletic training than anything else.	1	2	3	4	5	6	7
6. I feel bad about myself when I do poorly at my athletic training job.	1	2	3	4	5	6	7
7. I would be very depressed if I could not continue athletic training.	1	2	3	4	5	6	7
8. I feel confident when approached by an injured athlete.	1	2	3	4	5	6	7
9. I feel confident in my athletic training ability.	1	2	3	4	5	6	7
10. I feel confident in the evaluation of athletic injuries.	1	2	3	4	5	6	7
11. I feel confident in treating athletic injuries.	1	2	3	4	5	6	7
12. I feel confident in my ability to counsel injured athletes.	1	2	3	4	5	6	7
13. I feel confident in my ability to deliver psychological skills training to injured athletes.	1	2	3	4	5	6	7
14. I am a competent athletic trainer.	1	2	3	4	5	6	7
15. I am competent in evaluating athletic injuries.	1	2	3	4	5	6	7
16. I am competent in treating all athletic injuries.	1	2	3	4	5	6	7
17. I am competent in counseling injured athletes.	1	2	3	4	5	6	7
18. I am competent in all areas of psychological skills training for injured athletes.	1	2	3	4	5	6	7
19. I feel qualified to counsel athletes psychologically.	1	2	3	4	5	6	7
20. My education in athletic training included multiple courses in sport psychology.	1	2	3	4	5	6	7
21. I believe athletic trainers should receive training in counseling techniques.	1	2	3	4	5	6	7
22. I would rather my athlete come to me before anyone else about psychological issues.	1	2	3	4	5	6	7
23. I believe physical rehabilitation is highly important in injury recovery.	1	2	3	4	5	6	7
24. I believe psychological counseling is highly important in injury recovery.	1	2	3	4	5	6	7

On a scale of 1 to 10 (1 being low and 10 being high) how would you rate importance of sport psych in AT?   1 2 3 4 5 6 7 8 9 10

On a scale of 1 to 10 how would you rate your previous training in sport psychology?   1 2 3 4 5 6 7 8 9 10

Taken from survey questions 20-24 and scaling questions 1 and 2.

Descriptive Statistics for Subscale Questions 20-24 – Subjects' Attitude Toward Sport Psychology.

Survey Question	N	Mean	SD	Minimum	Maximum
My education in athletic training included multiple courses in sport psychology					
	205	3.23	1.736	1	7
I believe athletic trainers should receive training in counseling techniques					
	205	5.66	1.184	1	7
I would rather my athlete come to me before anyone else about psychological issues					
	205	4.73	1.326	1	7
I believe physical rehabilitation is highly important in injury recovery					
	205	6.43	0.908	1	7
I believe psychological counseling is highly important in injury recovery					
	205	6.01	1.069	1	7
On a scale of 1 to 10 how would you rate importance of sport psychology in athletic training?					
	204	8.21	1.403	3	10
On a scale of 1 to 10 how would you rate your previous training in sport psychology?					
	204	4.21	2.179	1	10

This table presents the current issue within Athletic Training Program Curriculums. Of the 205 subjects who participated, the mean score for people who had "multiple" courses in sport psychology was only 3.23, which is below even the "neutral" level on the Likert-scale. With the lack of training reported in the area, there is a clear issue when looking at the "belief that psychological counseling is highly important in injury recovery." The mean score for this survey statement was 6.01, or an agreement with the statement. Why is it that athletic trainers report such an importance in psychology but still receive inadequate training in the area?

For the statement, "I believe athletic trainers should receive training in counseling techniques," the mean score of all 205 subjects was 5.66, which is also an agreement. This data reinforces the need for athletic training curriculums to begin offering classes that will enhance every professional's knowledge and skills in the realm of sport psychology.