Collegiate athletes' perceptions of social support and athletic trainer-coach conflict

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COLLEGIATE ATHLETES’ PERCEPTIONS OF SOCIAL SUPPORT
AND ATHLETIC TRAINER-COACH CONFLICT

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Doctor of Education

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ABSTRACT

Following an injury, athletes go through a cognitive evaluation to determine if resources are present to manage any potential stress attributed to being injured (e.g., Wiese-Bjornstal et al., 1995). This evaluation determines both behavioral and emotional responses to the injury and can be influenced by a number of factors, including social support (e.g., Wiese-Bjornstal et al., 1998). Social support serves as a resource that allows injured athletes to make a positive cognitive evaluation (e.g., Wiese-Bjornstal et al., 1998). Another factor that could influence the cognitive evaluation is interpersonal conflict. In athletics, interpersonal conflict is present in the form of athletic trainer-coach conflict that commonly revolves around the return to play decision (Wolverton, 2013).

The purpose of this study was to describe collegiate athletes’ perceptions of social support and athletic trainer-coach conflict. NCAA Division I, II, and III athletes ($N = 246$), who missed at least one week of practice or games due to an injury, were assessed on their perceptions on the presence of athletic trainer-coach conflict and social support from their athletic trainer and coach. Athletes in this study perceived low levels of athletic trainer-coach conflict with no differences based on their sport, status on the team, or level of competition. Negative relationships between acceptance and belonging and appraisal and coping support from the coach and task conflict were found. Additionally, behavioral and cognitive and modeling support from the coach were negatively related to relationship conflict. Results of perceived social support indicate that coaches and athletic trainers were quality sources of social support. Revenue athletes perceived higher levels of modeling social support from both the athletic trainer and coach when compared to
non-revenue athletes. Additionally, NCAA Division II/III athletes perceived higher levels of acceptance and belonging support from the coach. No specific subscales of social support were significantly different based upon athlete’s status on the team. However, acceptance and belonging and appraisal and coping support for starters from the coach approached significance. Understanding variables that can influence the cognitive evaluation following an injury is important to allow for the athlete to respond positively when injured.
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DEDICATION

This dissertation is dedicated to my wife, Diana, and children, Bennett and Evelyn. You were my most important sources of social support during this entire process.

This dissertation was completed for you and could not have been done without you.
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To my dissertation chair, Dr. Windee Weiss, I wish I would have discovered my dissertation topic much earlier on in the degree process. There is so much more I could have learned from you. However, I am grateful for the knowledge you have shared with me and how helpful you has been during the writing and editing of this dissertation.

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# TABLE OF CONTENTS

**LIST OF TABLES** .................................................................................................................... viii

**LIST OF FIGURES** .................................................................................................................. ix

**CHAPTER 1. INTRODUCTION TO THE STUDY** .................................................................1

  Statement of the Problem ......................................................................................................7

  Purpose of the Study ..........................................................................................................11

  Research Questions ..........................................................................................................11

    Purpose 1 .......................................................................................................................11

    Purpose 2 .......................................................................................................................12

    Purpose 3 .......................................................................................................................13

  Delimitations .....................................................................................................................13

  Limitations .........................................................................................................................14

  Assumptions ......................................................................................................................14

  Definition of Terms ..........................................................................................................14

**CHAPTER 2. REVIEW OF RELATED LITERATURE** .........................................................16

  Response to Injury ..........................................................................................................17

  Social Support ..................................................................................................................24

    Athletes’ Perceptions of Social Support from Coaches ..................................................34

    Athletes’ Perceptions of Social Support from Healthcare Professionals .....................38

    Variables of Social Support ..........................................................................................40

    Healthcare Professionals’ Perceptions of Social Support .............................................43
<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participants’ Sports</td>
<td>78</td>
</tr>
<tr>
<td>2. Social Support Items</td>
<td>79</td>
</tr>
<tr>
<td>3. Athletic Trainer-Coach Conflict Items</td>
<td>81</td>
</tr>
<tr>
<td>4. Correlations, Descriptive Statistics, and Alpha Coefficients</td>
<td>90</td>
</tr>
<tr>
<td>5. Means and Standard Deviations for All Constructs by Status and Level</td>
<td>94</td>
</tr>
<tr>
<td>6. Means and Standard Deviations for All Constructs by Type of Sport</td>
<td>97</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

FIGURE                              PAGE

1. Representation of model of response to sports injury and rehabilitation........18
2. Research map.................................................................84
CHAPTER 1
INTRODUCTION TO THE STUDY

Injuries are a common aspect of athletic participation. Almost two million sport related injuries are treated in the emergency room each year (Misra, 2014). In particular, injuries are very common in college athletics. Over a 15 year time period (1989-2004) more than 182,000 injuries were reported to the NCAA Injury Surveillance System (ISS; Hootman, Dick & Agel, 2007). All injuries reported to the ISS must have caused the injured athlete to miss one or more practices or games. Thus, this number represents only a portion of the total number of injuries that do occur each year at NCAA institutions. Perhaps more notably, approximately half of collegiate athletes sustain at least one injury requiring medical attention or restricting their participation during their careers (Hootman et al., 2007). These statistics suggest that at the collegiate level, sport injury is unfortunately common and of concern. Taken in combination, injury and missed opportunities to play and compete could influence an athlete psychologically. More specifically, an athlete’s identity could be affected. This change in identity could be a source of stress for the injured athlete (Wiese-Bjornstal, Smith, & LaMott, 1995).

Sustaining an injury can be a stressful situation for many athletes due to fear and uncertainty about their immediate future, from social comparisons made with other injured athletes, or from concerns as to how an injury will affect the athlete socially and athletically (Gould, Udry, Bridges & Beck, 1997; Wiese-Bjornstal, Smith, Shaffer & Morrey, 1998). Additionally, the stress of a major athletic injury could decrease overall life satisfaction (Malinauskas, 2010).
In a stressful situation, such as an injury, an athlete will make a cognitive appraisal of and how to react to the stressor. During the cognitive appraisal, an injured athlete assesses what has happened to them and if they are able to deal with the injury and resulting changes to their life (Wiese & Weiss, 1987). Mediating factors, such as the nature of the injury, and personal characteristics among other factors, will affect an athlete’s cognitive judgment of the short and long term impacts of the stressor. Additionally, personal and environmental factors are appraised as possible coping resources. The overall appraisal of the stressor, nature of the injury, and coping factors will determine how the injured athlete will physically, emotionally, and behaviorally respond to the injury. The behavioral and emotional response could have a negative or positive effect on the recovery outcomes. A positive or negative recovery outcome could have a cyclical effect of increased or decreased levels of stress, leading to a modified appraisal and adjusted physical, emotional and behavioral actions. This cyclical relationship between stress, cognitive evaluation, behaviors, outcomes and increased or decreased stress places an emphasis on the athlete identifying adequate coping resources available to appropriately respond to the stress of an injury (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998).

One major factor that can affect the cognitive appraisal of stress from an injury is the amount of perceived social support available to the injured athlete (Wiese, Weiss, & Yukelson, 1991; Wiese-Bjornstal et al., 1995). Social support is the sharing of resources among two or more people with the intention of improving the overall welfare of the target individual (Shumaker & Brownell, 1984). Athletes use social support as a resource
to cope with emotional responses caused by the appraisal of an injury (Gould et al., 1997; Wiese-Bjornstal et al., 1998). Athletes utilize social support from athletic trainers, coaches, teammates, parents, and friends (Gould et al., 1997; Russell & Tracey, 2011; Yang, Peek-Asa, Lowe, Heiden, & Foster, 2010). Collegiate athletes rely upon coaches and athletic trainers more frequently as sources of social support than parents, friends and family members (Yang et al., 2010). This disproportionate use of athletic trainers and coaches for social support is likely due to their living situations. Collegiate athletes are typically away from home, athletic trainers and coaches are likely the most readily available sources of social support (Yang et al., 2010).

Many studies have demonstrated that coaches can be reliable and effective sources of social support for injured athletes (Abgarov, Jeffery-Tosoni, Baker, & Fraser-Thomas, 2012; Podlog & Eklund; 2007; Robbins & Rosenfeld; 2001; Udry, 1997). In these studies, athletes have identified coaches as having provided positive support following an injury. Additionally, coaches have indicated a desire to be sources of social support for an injured athlete (Podlog & Dionigi, 2010).

However, several studies have also demonstrated coaches are not always a reliable source of social support for injured athletes. Participants in several studies have reported coaches pressuring athletes to return too soon from an injury (Abgarov et al., 2012; Podlog & Eklund, 2006; Robbins & Rosenfeld, 2001; Udry, 1997) or ignoring injured athletes who are no longer playing (Bianco, 2001; Robbins & Rosenfeld, 2001; Udry, 1997). These negative reactions by a coach have been perceived by injured athletes and reported as negative factors in the rehabilitation process (Abgarov et al., 2012;
Bianco, 2001; Robbins & Rosenfeld, 2001). These situations eliminate a potential source of social support. It is not fully understood why some coaches are perceived as providing low levels of social support to an injured athlete.

Athletic trainers are also a major source of social support following an injury (Clement & Shannon, 2011; Fisher & Hoisington, 1993; Gould et al., 1997; Robbins & Rosenfeld, 2001, Yang et al., 2014). Athletic trainers have been reported as being good listeners (Robbins & Rosenfeld, 2001), helpful in dealing with stress related to an injury (Gould et al., 1997), sources of education about an injury (Fisher & Hoisington, 1993), and sometimes a better source of social support than coaches (Clement & Shannon, 2011). Similar to research on social support provided by coaches, the social support provided by athletic trainers is not universally positive (Abgarov et al., 2012; Russell & Tracey, 2011). In these studies, a lack of communication and empathy were cited as areas of weakness of athletic trainers providing social support (Abgarov et al., 2012; Russell & Tracey, 2011). While the evidence is not strong, these studies suggest that athletic trainers may not always be consistent sources of social support for injured athletes. Thus, future research should explore why athletic trainers may not adequately provide social support in all situations. A possible explanation for the lack of social support provided to athletes by athletic trainers and coaches following an injury could be the presence of conflict.

While conflict is a normal part of a functional working environment, most organizations try to diminish or eliminate its presence (Rahim, 2002). Conflict is the disagreement or irreconcilability between two individuals (Rahim, 2002). The athletic
environment includes the presence of conflict. In particular, conflict is sometimes present between athletic trainers and coaches (Capel, 1986, 1990; Hendrix, Acevedo, & Hebert, 2000; Kania, Meyer & Ebersole, 2009; Liggett & Watson, 2010; Wolverton, 2013). The decision on whether an injured athlete should return to play is a major source of athletic trainer-coach conflict (Goodman et al., 2010; Pitney, 2006; Wolverton, 2013).

A decision-based model for returning to play was developed by Creighton, Shrier, Shultz, Meeuwisse, and Matheson (2010). Within this model, evaluations by the medical staff, including athletic trainers, are identified as the primary factors in making the return to play decision following an injury. However, the decision can be altered by internal and external modifiers. An example of an external modifier is the pressure from a coach to return an athlete to participation quickly to help the team succeed. While a suggestion from a coach should not be a reason to change the participation status, Creighton et al. (2010) indicated that an athlete may want to include outside opinions in the decision making process, including a coach’s thoughts and opinions. It is these outside influences from coaches that are identified as a possible source of athletic trainer-coach conflict. The possible pressure from coaches to return an injured athlete to play can be the source of potential conflict. This conflict could negatively affect an already difficult and stressful situation.

Wolverton (2013) recently described athletic trainer-coach conflict resulting from the return to play decision for collegiate athletes. In a survey of NCAA Division-I Football Bowl Series (FBS) athletic trainers, 53% felt pressure to return a player too early, and 42% felt pressure to return a player the same day the athlete was diagnosed.
with a concussion. In follow-up interviews, several athletic trainers reported that their job status was affected or could be affected by conflict with a coach due to the medical decisions regarding an athlete.

Adding to the source of athletic trainer-coach conflict is a lack of trust from coaches toward athletic trainers. Coaches have indicated they may not trust athletic trainers, specifically in the return to play situation (Podlog & Eklund, 2007). Some coaches feel that healthcare professionals may be too conservative in returning an athlete to play (Abgarov et al., 2012; Podlog & Eklund, 2007). This potential mistrust was mitigated if a healthcare professional had an athletic background (Podlog & Eklund, 2007). If the coach does not trust the athletic trainer and their decision making ability, this too could be a source of conflict.

Athletic trainer-coach conflict can affect the normal working environment though depersonalization and burnout among athletic trainers (Capel, 1986; Kania et al., 2009). Conflict with coaches has been cited by athletic trainers as a major negative aspect of the job (Capel, 1990; Wolverton, 2013). Also, perceived stress, which could come from conflict, has been linked to emotional exhaustion in athletic trainers (Hendrix et al., 2000). Athletic trainer-coach conflict appears to negatively influence the athletic trainer (Capel, 1986; Hendrix et al., 2000; Kania et al., 2009). This negative influence may even cause the athletic trainer to seek employment at another institution or leave the profession altogether (Capel, 1990; Goodman et al., 2010; Mazerolle, Pitney, & Goodman, 2013). Negative feelings, emotional exhaustion, stress and a desire to leave a job setting could have a negative influence on job performance. An athletic trainer’s main priority should
be the healthcare provided to an athlete. However, if an athletic trainer has negative feelings, is emotionally exhausted, stressed, or does not want to be in a work environment, the net result could be inadequate social support for the injured athletes. However, it is unknown if the effects of increased stress on an athletic trainer will change or modify how they interact with injured athletes. Additionally, it is unclear if change in the interaction between athletic trainers and injured athletes could be perceived as a decline in social support by the athlete.

Injured athletes need many resources to help cope with the stress of an injury. Athletes have reported social support as a major coping resource for this stress (Bianco, 2001; Fisher, Domm & Wuest, 1988; Gould et al., 1997; Johnston & Carroll, 1998; Russell & Tracey, 2011). In particular, coaches and athletic trainers in the collegiate setting are important sources of social support for injured athletes (Barefield & McCallister, 1997; Clement & Shannon, 2011; Robbins & Rosenfeld, 2001; Yang et al., 2010). However, in the collegiate setting, it is common for conflict to be present between coaches and athletic trainers (Capel, 1986; Creighton et al., 2010; Gieck, 1984; Wolverton, 2013). This conflict can have an impact on the athletic trainer (Goodman et al., 2010; Hendrix et al., 2000; Kania et al., 2009; Mazerolle et al., 2013). However, little is known about whether or not athletic trainer-coach conflict has an impact on the social support provided to injured athletes by coaches and athletic trainers.

Statement of the Problem

Following an injury, the athlete will use many sources to aid in coping with the potential stress (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). These sources
can be beneficial to the injured athlete. Sources are beneficial if they modify the cognitive response of an athlete towards feeling capable of handling the stress of an injury and the rehabilitation that will follow. If the athlete has a positive cognitive appraisal, a positive behavioral and emotional response is likely. These positive actions could lead to a positive recovery outcome. One potential mediating factor of this stress is social support (Tracey, 2003; Wiese-Bjornstal et al., 1998). Injured athletes turn to a variety of sources for social support. Friends, family, teammates, coaches, and healthcare staff, including athletic trainers, are cited as sources of potential social support (Bianco, 2001; Corbillon, Crossman & Jamieson, 2008; Yang et al., 2010). However, collegiate athletes utilize athletic trainers, and coaches for social support following an injury significantly more than friends, family and teammates (Yang et al., 2010). Thus, any mediating factors, such as athletic trainer-coach conflict, that could potentially diminish the availability of social support from coaches and athletic trainers could play a larger role in this situation.

Within collegiate athletics, it may be common for athletic trainer-coach conflict to occur (Capel, 1990; Pitney, Ilsley, & Rintala, 2002; Wolverton, 2013). Athletic trainers have reported this conflict can lead to stress, burnout, depersonalization, and emotional exhaustion (Brumels & Beach, 2008; Capel, 1986; Hendrix et al., 2000; Kania et al., 2009). These negative reactions to conflict can affect the athletic trainer’s job, and could ultimately cause the athletic trainer to leave the profession (Capel, 1986; Goodman et al., 2010; Pitney et al., 2002). The question remains whether athletic trainer-coach conflict can impact others around the conflict. The athletic trainer appears to be effected by the
conflict (Brumels & Beach, 2008; Capel, 1986; Hendrix et al., 2000; Kania et al., 2009). If an athletic trainer has increased stress, depersonalization and emotional exhaustion, this change in behavior could impact both how others perceive the athletic trainer and how the athletic trainer performs in that work environment.

One component of the athletic trainer-coach conflict is the return to play decision for an injured athlete (Creighton et al., 2010). Coaches also report this is a source of conflict with the athletic trainer (Podlog & Eklund, 2007). Additionally, athletes report feeling this pressure from coaches (Abgarov et al., 2012; Podlog & Eklund, 2006; Robbins & Rosenfeld, 2001; Udry, 1997). Perhaps this pressure from the return to play decision could cause the athlete to feel less social support from the coach or the athletic trainer. More specifically, it is unknown if an athlete perceives a different level of social support when athletic trainer-coach conflict is present.

The presence of athletic trainer-coach conflict in athletic training has not been well examined across different levels. In this area, studies have specifically examined athletic trainer-coach conflict reported by NCAA Division I athletic trainers (Brumels & Beach, 2008; Goodman et al., 2010; Hendrix et al., 2000; Mazerolle et al., 2013; Pitney, 2006; Pitney et al., 2002; Wolverton, 2013). Other studies of athletic trainer-coach conflict (Capel, 1986, Kania et al., 2009) have examined general populations of athletic trainers and have not examined the effects of the workplace setting on the presence of athletic trainer-coach conflict.

Similarly, the presence and effects of social support in the collegiate setting has not been fully explored. Studies have examined the presence of social support at NCAA
Division I (Barefield & McCallister, 1997; Bone & Fry, 2006; Duda, Smart, & Tappe, 1989; Fisher & Hoisington, 1993; Yang et al., 2010; Yang et al., 2014), NCAA Division II (Byerly, Worrell, Gahimer, & Domholdt, 1994; Clement & Shannon, 2011) and NCAA Division III (Clement & Shannon, 2011) institutions. No studies were found that explored the differences in social support provided by athletic trainers or coaches at different collegiate levels.

The differences in both conflict and social support at the different levels of NCAA competition should be examined. The three different levels have different philosophies (NCAA n.d.a, n.d.b, n.d.c). The NCAA Division II and III philosophies seem to place more of an importance on the educational rather than the athletic experience. These different philosophies should place a different emphasis on athletic participation and the need to quickly return an athlete to full participation from an injury. If NCAA Division II and III athletes are truly focused on their educational experience and not the athletic experience, one could infer lower levels of athletic trainer-coach conflict over a return to play decision would occur. However, athletic trainer-coach conflict is reported at all three levels (Brumels & Beach, 2008; Kania et al., 2009).

Additionally, the possible relationship between gender, status on the team, the type of sport being played, and perceived social support has been examined on a limited basis. Many studies have included participants of different genders (Robbins & Rosenfeld, 2001; Yang et al., 2010) and different sports (Barefield & McCallister, 1997; Clement & Shannon, 2011; Robbins & Rosenfeld, 2001; Yang et al., 2010). However, the
possible relationship between either an athlete’s gender, status on the team, or the sport an athlete competes in was not included as an independent variable during data analysis.

**Purpose of the Study**

Although a well-documented body of knowledge exists describing the need for social support for injured athletes and the effects of conflict on some third parties, no studies have yet to investigate athletic trainer-coach conflict from the injured athletes’ perspective. The purpose of this study was to examine if a relationship exists between injured athletes’ perceptions of social support and athletic trainer-coach conflict. The first purpose was to describe the presence of athletic trainer-coach conflict in collegiate athletics and any relationship that might be present between perceived athletic trainer-coach conflict and social support. Second, this study investigated if there are differences in both perceived conflict and social support due to an athlete’s playing status or level of competition. Third, this study explored if differences existed in both perceived conflict and social support due to the athlete’s sport (revenue v. non-revenue).

**Research Questions**

The specific questions that this study answered were:

**Purpose 1:**

a. How much conflict between the athletic trainer and coach did collegiate athletes perceive?

b. Are perceptions of athletic trainer-coach conflict related to the levels of perceived social support from athletic trainers? It was hypothesized that a negative
relationship existed between the level of athletic trainer-coach conflict and perceived social support from athletic trainers.

c. Are perceptions of athletic trainer-coach conflict related to the levels of perceived social support from coaches? It was hypothesized that a negative relationship existed between the level of athletic trainer-coach conflict and perceived social support from coaches.

**Purpose 2:**

d. Do differences exist on perceived athletic trainer-coach conflict for athletes of varying playing status (i.e., starter or non-starter) at different levels of competition (NCAA Division I or II/III)? It was hypothesized that levels of perceived athletic trainer-coach conflict would be significantly higher \( (p < .05) \) for starters compared to non-starters at the NCAA Division I level.

e. Do differences exist on perceived social support from athletic trainers for injured athlete’s varying playing status at different levels of competition? No hypothesis was put forward for potential effects of the athlete’s level of competition and an injured athlete’s perceptions of social support from their athletic trainer due to a lack of consistency or related findings in the literature.

f. Do differences exist on perceived social support from coaches for injured athlete’s varying playing at different levels of competition? No hypothesis was put forward for potential effects of the athlete’s level of competition and an injured athlete’s perceptions of social support from their coach due to a lack of consistency or related findings in the literature.
Purpose 3

g. Do differences exist on level of perceived athletic trainer-coach conflict for athletes playing revenue vs. non-revenue sports? No hypothesis was put forward for potential effects of the athlete’s sport and an injured athlete’s perceptions of athletic trainer-coach conflict due to a lack of consistency or related findings in the literature.

h. Do differences exist on the level of perceived social support from the athletic trainer for athletes playing revenue vs. non-revenue sports? No hypothesis was being put forward for potential effects of the athlete’s sport and an injured athlete’s perceptions of social support from their athletic trainer due to a lack of consistency or related findings in the literature.

i. Do differences exist on the level of perceived social support from the coach for athletes playing revenue vs. non-revenue sports? No hypothesis was put forward for potential effects of the athlete’s sport and an injured athlete’s perceptions of social support from their coach due to a lack of consistency or related findings in the literature.

Delimitations

This study was delimited to:

1. 246 participants.

2. Collegiate athletes competing at NCAA Division I, II, and III levels.

3. Collegiate athletes competing at the University of Northern Iowa, the University of Iowa, Upper Iowa University, Loras College, and Central College.
4. A survey designed to determine perceived levels of athletic trainer-coach conflict and social support following a moderate to severe injury.

Limitations

The following limitations were identified for this study:

1. Participants were selected from collegiate institutions within the state of Iowa.
   This pool of participants may not accurately reflect the total population of NCAA Division I-III collegiate athletes.

Assumptions

The study was conducted with the following assumptions:

1. The participants answered the survey honestly.

2. The surveys utilized were reliable and valid instruments.

Definition of Terms

Conflict - “a dynamic process that occurs between interdependent parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals” (Barki & Hartwick, 2004, p. 234).

NCAA Division I – “generally have the biggest student bodies, manage the largest athletics budgets and offer the most generous number of scholarships. Schools who are members of Division I commit to maintaining a high academic standard for athletes in addition to a wide range of opportunities for athletics participation” (NCAA, n.d.a).

NCAA Division II – “provide thousands of athletes the opportunity to compete at a high level of scholarship athletics while excelling in the classroom and fully engaging in the broader campus experience” (NCAA, n.d.b).
NCAA Division III – “Colleges and universities in Division III place the highest priority on the overall quality of the educational experience and on the successful completion of all students’ academic programs. They seek to establish and maintain an environment in which a student-athlete’s athletics activities are conducted as an integral part of the student-athlete’s educational experience, and an environment that values cultural diversity and gender equity among their athletes and athletics staff” (NCAA, n.d.c).

Social Support – “an exchange of resources between at least two or more individuals perceived by the provider or the recipient to the intended to enhance the well-being of the recipient” (Shumaker & Brownell, 1984, p. 13).
CHAPTER 2

REVIEW OF RELATED LITERATURE

Injuries are a common experience in competitive athletics. A total of 182,000 injuries were reported to the NCAA Injury Surveillance System (ISS) over a 16 year window. (Hootman et al., 2007). Many sport-related injuries will not require any loss of time participating in the sport, however many will require the athlete to sit out multiple practices and/or games. Approximately half of all collegiate athletes sustain at least one injury requiring medical attention or restricting their participation (Hootman et al., 2007). The injury itself and subsequent loss of playing time can cause behavioral and emotional challenges for any athlete. An injured athlete is faced with possibly adjusting daily behaviors in social, educational, and personal environments. According to Ford and Gordon (1999), the athlete is faced with losing status, leadership, team involvement, and attention within the sporting arena. Additionally, losses of self-esteem, self-confidence, independence, and affection in addition to increased frustration are reported as possible issues following an injury (Tracey, 2003; Wiese-Bjornstal et al., 1998). Even overall life satisfaction can be diminished due to the stress of a major injury (Malinauskas, 2010).

A large body of literature exists examining the athlete’s response to an injury and factors that influence the response. A literature map which provides a summary of the primary sources reviewed for this review of the literature can be found in Appendix A. A more detailed review of the literature will follow in this chapter. Three specific areas of literature will be examined: (1) the athlete’s response to an injury, (2) social support for
an injured athlete from healthcare professionals and coaches, and (3) athletic trainer-coach conflict regarding the treatment and return to play decision following an injury.

More specifically, within the discussion of social support, the focus will be on effects of social support on the rehabilitation process, the expectations of athletes, coaches, and healthcare providers for social support during a rehabilitation, healthcare professionals’ perceptions of social support, coaches’ perceptions of social support, and factors that influence athletes’ perceptions of social support. Conflict will then be discussed focusing on parallel arguments demonstrating its effects on patients following healthcare-provider conflict and athletes following coach-parent conflict. Finally, the presence of athletic trainer-coach conflict and its possible effects on social support provided to injured athletes will be examined.

**Response to Injury**

A theoretical model of response to sport injury identifying the factors that an athlete uses to determine behavioral and emotional responses was developed by Wiese-Bjornstal et al. (1995) and updated by Wiese-Bjornstal et al. (1998). Please see Figure 1 for a complete representation of Wiese-Bjornstal’s model.

Personal factors influence an athletes’ appraisal of an injury. Personal factors could include: previous history of injury, the severity of the injury, the cause of the injury and the present recovery status of the injury (Wiese-Bjornstal et al., 1998). The athlete’s unique individual differences will also play a role in how an athlete appraises an injury.

For example, the athlete’s coping skills and athletic identity can play a role in how an injury is appraised (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998).
These are individual factors that will distinctively affect an athlete’s thought process. If an athlete has poor coping skills, an injury can have a greater effect on thought processes as the athlete may not have the ability to deal with the stress of an injury and the potential negative side effects.

Another factor influencing how an athlete will view an injury is their athletic identity. Athletic identity is the level to which one’s identity is tied to their athletic participation (Stiller-Ostrowski & Tracey, 2015). That is, how the athlete views themselves and their self-worth is through their participation in athletics. An injury can
take away this identity (Stiller-Ostrowski & Tracey, 2015). This is important because identity is a mediating factor that can modify the cognitive appraisal an injured athlete goes through (Wiese-Bjornstal et al., 1995). Thus, if an athlete has a high athletic identity and they suffer an injury, their identity is suddenly changed. With the loss of their identity, the athlete suddenly does not feel they may be capable of being able to overcome their injury. This could lead to negative behavioral and emotional responses.

Wiese-Bjornstal et al. (1995) also cite the importance of injury characteristics on how an athlete appraises an injury. These include the severity of the injury, previous history of injuries and the type of injury. In particular of note is the nature of the injury. Chronic and overuse injuries are understudied, but can have a significant impact on the psychological response of an athlete, especially if social support is not present (Wiese-Bjornstal et al., 1995).

Factors outside of the individual, or situational characteristics, will also play a role in the cognitive appraisal of an injury (Corbillon et al., 2008; Tracey, 2003; Wiese-Bjornstal et al., 1995). These are sport specific, social, and environmental situational factors. Sport-specific situational factors include: age, skill level, and time commitment. For example, younger athletes may overestimate the potential effects of an injury, while older athletes may feel more stress following an injury if the athlete is competing at a higher intensity level (professional, high-intensity athletics). The role on the team and timing of the injury may play a role in how an injury is viewed by an athlete. Few studies have examined these factors and most cite these as mediating factors. For example, the role on the team may influence pressure felt by an athlete to return to play (Corbillon et
Thus, a starter may feel stress that a role player does not. The proximity of an injury to a competition could also influence the emotional response an athlete has following an injury.

Social support is another situational characteristic that could influence an athletes’ appraisal as well as emotional and behavioral responses. Social support from coaches and athletic trainers may have a positive influence on how an athlete will think, feel, and act following an injury (Corbillon et al., 2008; Podlog & Dionigi, 2010; Udry, 1996). Social support could come in the form of information, feedback, or emotional support (Bianco, 2001; Johnston & Carroll, 1998). Wiese-Bjornstal et al. (1995) indicated that social support provided could influence decisions on whether to attend rehabilitation sessions and influence the mood of an athlete.

According to the Wiese-Bjornstal model (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998), a cognitive appraisal is made by an athlete after the injury occurs. The cognitive appraisal includes goal adjustments due to the injury, a sense of loss or relief due to the injury, changes in self-perceptions due to the injury, modifications in beliefs or attributions, and cognitive methods of coping with the injury. The factors surrounding the injury will have a role in determining how quickly an athlete can return to play. That is, the athlete evaluates if they can emotionally, mentally, and physically cope and deal with being injured. Thus, the more information an athlete can have about the injury, the more accurate the athlete’s cognitive appraisal (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998).
Once an athlete makes a cognitive appraisal of the injury, a response will occur. This response has cognitive, emotional, and behavioral dimensions. Cognitively, the athlete may need to adjust his or her goals and aspirations in that following an injury, previous goals may no longer be achievable. Additionally, following an injury, athletes may need to adjust their physical self-efficacy. After an injury, athletes may no longer be able to physically accomplish the same athletic or everyday tasks. This stressor may require the athlete to readjust how they view his or her physical abilities, which will then influence his or her emotional response to the injury (Tracey, 2003; Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998).

This emotional response can vary considerably: fear, anger, depression, frustration, boredom, and even diminished life satisfaction (Malinauskas, 2010). Wiese-Bjornstal et al. (1995) identified several common emotional responses following an injury. These include a fear of the unknown, anger and depression, frustration and boredom, or a positive outlook and attitude. All of these responses can commonly occur and are influenced by the cognitive appraisal. The emotional response will be determined by how the athlete has assessed the injury and what mediating factors are present to aid the athlete during recovery and time away from normal participation in athletics (Tracey, 2003; Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). Ultimately, the emotional response can effect the injured athlete’s self-esteem (Tracey, 2003), either increasing or decreasing their view of themselves, and have a subsequent effect on the athlete’s behaviors. It is these behaviors that have a direct impact on the recovery process and determine the outcome of a rehabilitation (Wiese-Bjornstal et al., 1995).
The behavior of an injured athlete will affect not only their rehabilitation, but also future cognitive and emotional responses (Wiese-Bjornstal et al., 1995). If an injured athlete is going to miss significant time due to injury, a rehabilitation program will be vital for recovery (Prentice, 2011). For a rehabilitation program to be successful, an injured athlete will need to adhere to the program and put in a maximal effort (Bone & Fry, 2006; Fisher & Hoisington, 1993). It has been determined that the emotional response of an injured athlete can effect how an injured athlete will adhere to a rehabilitation program (Brewer, 1998; Wiese-Bjornstal et al., 1995). Self-motivation and motivational orientation in particular could influence how well athletes will adhere to a rehabilitation program (Wiese-Bjornstal et al., 1995). These are determined by an injured athlete’s emotional response.

As previously stated, a successful rehabilitation is determined in part by an injured athlete’s effort and adherence to that program (Bone & Fry, 2006; Fisher & Hoisington, 1993). This is a large part of the behavioral reaction of an injured athlete. As Wiese-Bjornstal et al. (1995) suggest, the injured athlete with a positive emotional response to an injury will likely take more risks (i.e., complete exercises despite fatigue and discomfort), put in a higher level of effort, and adhere to the rehabilitation program. It is these positive behaviors that lead to a greater opportunity for a successful rehabilitation. While an injured athlete will go through an initial cognitive appraisal and subsequent emotional and behavioral responses, this process is not a single event. An injured athlete will continue through this cycle throughout the rehabilitation (Rose & Jevne, 1993; Wiese-Bjornstal et al., 1995; Wiese & Weiss, 1987). The injured athlete’s
cognitive appraisal may not be the same throughout a rehabilitation. Mediating factors and rehabilitation progress or setbacks could influence changes in the cognitive appraisal of the injury. Thus, the injured athlete is always re-evaluating what is happening (Rose & Jevne, 1993; Wiese-Bjornstal et al., 1995; Wiese & Weiss, 1987). Ideally, it is important for an athlete to ultimately maintain a positive cognitive appraisal.

For example, following an injury an athlete could undergo a positive cognitive appraisal of an injury. The athlete could determine that they have good social resources, such as teammates, coaches, and athletic trainers, to help support them during rehabilitation. The athlete could have a positive emotional response to the injury and subsequently place a high amount of energy and drive into rehabilitation exercises. This effort in the rehabilitation could lead to a positive outcome in the form of regained strength and functional ability. These accomplishments in rehabilitation will then influence continued positive cognitive evaluations by the athlete. The continued positive cognitive evaluations lead to repeated emotional and behavioral responses, and ultimately, a positive outcome, such as a return to practice and competitions.

The alternative example would include a negative cognitive appraisal following an injury. The injured athlete could determine that the severity of the injury is too great, a lack of support from the coach, athletic trainer, and teammates is present, or a positive rehabilitation environment in not available. This negative cognitive appraisal will produce a negative emotional and behavioral response. This could cause the athlete to not attend rehabilitation sessions or if they do attend, effort will not be great enough to produce positive gains. The athlete will become discouraged when strength, range of
motion, and functional ability do not return. If an athlete does not return to play as quickly as desired, this will be viewed as a negative outcome. The negative outcome can cause a negative cycle of continued negative cognitive appraisals of the injury and continued negative emotional and behavioral responses.

In summary, following an injury, an athlete will undergo a cognitive appraisal concerning the injury, and situational and personal factors unique to that athlete and that injury will influence how the athlete acts and emotionally responds. This behavioral and emotional response is important for rehabilitation adherence and repeated cognitive appraisals of the injury as healing occurs. Within the situational factors that effect the cognitive appraisal, social factors are commonly used by the athlete to diffuse stress and emotionally and behaviorally respond positively to an injury (Tracey, 2003; Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). Social support is one specific social factor. Social support is emotional, behavioral, and cognitive assistance (Tracey, 2003; Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998) that is found in parents, teammates, coaches, and medical professionals (Yang et al., 2010). Social support can be an important factor that determines how quickly and how well an athlete recovers from an injury (Duda et al., 1989; Udry, 1996; Wiese-Bjornstal et al., 1995).

Social Support

According to the Wiese-Bjornstal et al. (1998) theoretical model on the response to injury, factors such as social support can influence the cognitive process of an athlete, and the subsequent emotional and behavioral response to an injury. Social support can be defined as, “an exchange of resources between at least two or more individuals perceived
by the provider or the recipient to the intended to enhance the well-being of the recipient” (Shumaker & Brownell, 1984, p. 13). Thus, someone can provide social support intentionally or unintentionally, and without the recipient (e.g., injured athlete) being aware of the support provided (Udry, 1996).

Varying ideas on how social support modifies behavioral and cognitive responses exist. Udry (1996) reviewed the literature to examine the role of social support in the injury rehabilitation setting. Social support emphasizes an exchange that helps to both prevent and recover from injuries. The focus of this dissertation is on the role of social support post-injury. Following an injury, social support is used to provide the athlete with a coping mechanism from stress that allows the injured athlete to fully focus their attention on the rehabilitation program. If an athlete is dedicated to their rehabilitation, the likelihood of a successful outcome is increased (Brewer, 1998; Udry, 1996).

Richman, Rosenfeld, and Hardy (1993) have identified eight types of social support. Each one is a unique way in which an injured athlete can be supported. Listening support is provided when an individual listens without being critical or injecting an opinion (Richman et al., 1993). An example would be an athletic trainer who listens to an injured athlete describe their frustrations of not being able to play without telling the athlete if they are right or wrong.

In addition, to listening to the injured athlete, a coach or athletic trainer can aid the athlete in responding to an injury properly by providing context to the situation. This can come in the form of reality confirmation, task challenge, and task appreciation (Richman et al., 1993). A coach who shares their experience with a sprained ankle to an
injured athlete who just sprained their own ankle would be providing reality confirmation support. This is support that provides confirmation from someone who has been in a similar situation. Task appreciation support occurs when one approves or admires a performance or action (Richman et al., 1993). An example would be an athletic trainer praising an athlete for improving their range of motion following an injury. A coach who contests an injured athlete’s negative opinion of a rehabilitation program would be providing task challenge support. This type of support tests the views of an individual in order to modify a behavior (Richman et al., 1993).

The presence and quality of perceived social support is one variable athletes use to make decisions on how to emotionally respond to an injury (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). Emotional support and emotional-challenge support will aid the injured athlete in having a more positive emotional response to an injury (Richman et al., 1993). Emotional support occurs when one provides comfort or consolation to someone in need (Richman et al., 1993). A coach providing an injured athlete with a hug following a diagnosis of a season ending injury would be an example of emotional support. Emotional challenge support is provided when one individual contests the thoughts or feelings of another person (Richman et al., 1993). An example of this support being provided in athletics would be a teammate suggesting to an injured teammate that they are thinking incorrectly about the long term effects of their injury.

An injured athlete could need help in many forms to both physically, mentally, and behaviorally deal with an injury. Tangible assistance support and personal assistance support both can provide the needed aid. Tangible assistance support comes in form of
time, financial, or physical assistance (Richman et al., 1993). An athletic trainer who comes in early so an injured athlete can attend a rehabilitation session would be providing tangible assistance support. Personal assistance support is provided when an athletic trainer uses their knowledge to successfully rehabilitate from an injury. This type of assistance can come in the form of expertise or knowledge (Richman et al., 1993).

An alternative to these forms of social support has been provided by Brown, Brady, Lent, Wolfert, and Hall (1987). The alternative classification of social support (Brown et al., 1987) includes four categories instead of the eight used by Richman et al. (1993). There is some similarity between two different classifications. However, the categories identified by Brown et al. (1987) are broader. According to Brown et al. (1987), the categories of social support needed include: esteem, expressive, guidance, and utilitarian needs.

Esteem needs require both information and feedback to reinforce the idea that a person is valued and respected by those around them (Brown et al., 1987). An example of providing support to meet esteem needs would be a coach reinforcing the important role an injured athlete can still play on a team. Following an injury, an athlete would also have the need to express thoughts and feelings about their injury, their new identity, and their future (Brown et al., 1987). These expressive needs can be met when an athletic trainer would listen and discuss an athlete’s concerns about being able to return to full competition following a serious injury. It is common for either coaches or athletic trainers to guide or assist an athlete in setting new goals, making healthcare decisions, or in coping with the stress of an injury. In these instances, the coach and athletic trainer would
be meeting the athlete’s guidance needs. Guidance needs can be met through the guidance or assistance to properly cognitively evaluate a situation and make appropriate decisions on how to both emotionally and behaviorally respond (Brown et al., 1987). Finally, an injured athlete could have utilitarian needs. These needs are met through the provision of meeting physical needs of an injured athlete (Brown et al., 1987). These needs could be met by an athletic trainer setting up a physician’s appointment or by the coach ensuring the athlete can physically travel with the team despite being immobilized.

It is apparent that social support is an important factor that can determine how an athlete will cognitively evaluate an injury (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). There are many forms in which social support can be provided (Brown et al., 1987; Richman et al., 1993). Thus a coach, athletic trainer, teammate, family member, or friend would have a variety of ways in which they could support an injured athlete. With multiple forms of social support available for use, it is important to understand which types of social support are needed by the injured athlete and when they are needed.

It does appear that the type of social support an injured athlete needs will vary throughout the recovery period following an injury (Bianco, 2001; Ford & Gordon, 1999; Johnston & Carroll, 1998). The variables influencing social support appear to be influenced by the situation (Bianco, 2001; Johnston & Carroll, 1998). Ford and Gordon (1999) discuss social support in the context of Holland’s conservation of resources (COR) theory. Using Holland’s COR theory, social support allows for an athlete to recover lost resources following an injury. These resources could be attention, self-esteem or confidence. In this study, four subjects were interviewed following knee
surgery. All four participants identified resources lost: health, independence, self-perception, achievement, and social role. Health losses came in the form of increased fatigue and weight due to the loss of physical activity. Independence losses were felt in the form of frustration when daily activities could not be completed due to decreased mobility and activity. Self-perception was a loss of pride and optimism. The loss of the ability to compete and less progress in a sporting career were defined as losses of achievements. Social role losses were changes in athletic identity and a change in their position on the team. Participants were then able to identify ways in which they were supported to overcome those losses: encouragement, reassurance, advice, personal assistance. In this way, athletes were aware of potential stressors following the injury, and due to the social support received, the athletes were able to overcome the stressors.

During rehabilitation, the type and amount of social support needed by the athlete will vary (Bianco, 2001; & Johnston & Carroll, 1998). Johnston and Carroll (1998) interviewed twelve athletes throughout their rehabilitation from a serious injury. Interviews occurred at the beginning, middle and end of the rehabilitation. Participants included eight males, four females, and ages ranged from 18-29 years ($M = 20.8$ years). Athletes varied in the sources sought for social support and the type of support they needed most from those sources. Immediately following an injury, teammates were leaned upon heavily for informational support, particularly athletes who had a similar injury. In addition, healthcare professionals were solicited for informational support about the nature of the injury and possible long term outcomes. During the middle of the rehabilitation, coaches and healthcare professionals were again sought out for
informational social support. This support allowed the athlete to progress in recovery while staying close to the team and getting information on fitness goals and exercises to complete. When the athlete was close to returning to play, informational support from both coaches and healthcare professionals was relied upon to determine if the athlete was truly ready to play.

Bianco (2001) supports the need for a large amount of informational support during rehabilitation. In this study, ten national team skiers from Canada were interviewed following an injury. The purpose of this study was to determine which types of social support were preferred by injured athletes. Immediately following an injury, coaches, teammates, and retired skiers were needed for informational support. They provided the injured skier with key information on how their personal experience went and any advice on the upcoming rehabilitation process. When the rehabilitation of the injury began, the skiers began to seek out information from their healthcare providers as well. The type of information needed was feedback on progress and when to push harder in the rehabilitation sessions. Additionally, the skiers continued to utilize teammates and coaches for advice, feedback, and information on shared experiences. The importance of specifically informational support found by Bianco (2001) matches the conclusions of Johnston and Carroll (1998). In this study, the importance of information in the form of shared reality and technical appreciation during the rehabilitation process was apparent. The level of informational support was the highest received throughout the athletes’ rehabilitations.
While informational support is important, there are multiple types of social support are needed by injured athletes and vary throughout the rehabilitation (Johnston & Carroll, 1998). Emotional support may be needed in the greatest amount immediately following an injury (Johnston & Carroll, 1998). This is probably due to the feelings of fear and uncertainty an athlete may encounter following an acute injury. Emotional support may be one way in which an athlete will deal with the stress of an injury. Following the initial injury, the need for emotional support will decrease significantly as the rehabilitation progresses (Johnston & Carroll, 1998). However, at the end of the rehabilitation process increased emotional social support may be needed to ease feelings of anxiety about returning to play. In a study by Yang et al. (2014), collegiate athletes that were satisfied with the levels social support provided by athletic trainers during their rehabilitation were shown to have significantly lower levels of depression and anxiety at the point of return to play following an injury.

Social support is an important resource injured athletes will rely upon in order to make a positive cognitive appraisal following an injury (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). There are multiple forms of social support which can be provided (Brown et al., 1987; Richman et al., 1993). Which type of support is needed can vary throughout the rehabilitation and according to the individual athlete’s needs (Johnston & Carroll, 1998). If social support is provided to an injured athlete, it can allow for a positive cognitive evaluation to occur and the injured athlete to perceive a positive outcome is possible (Wiese-Bjornstal et al., 1995). However, who provides the athlete with these various types of social support is not fully understood. It is the athlete’s
perceptions of social support that will help answer this question. Thus, understanding how athletes will perceive social support is imperative. It is these perceptions that are integral to the thought process.

Injured athletes appear to perceive social support will be available from multiple sources. These sources of social support include family members, friends, teammates, coaches, and healthcare providers (Abgarov et al., 2012; Clement & Shannon, 2011; Gould et al., 1997; Robbins & Rosenfeld, 2001; Russell & Tracey, 2011; Yang et al., 2010). However, these sources are not perceived to be consistently available following an injury (Johnston & Carroll, 1998; Yang et al., 2010). In particular, injured collegiate athletes use coaches and athletic trainers as sources of social support significantly more when compared to other sources (Yang et al., 2010). In the study by Yang et al. (2010), 260 NCAA Division-I athletes from 13 sports were surveyed before and after the occurrence of an injury about sources of social support. A baseline survey of social support was given at the beginning of the season, and follow-up surveys were administered three months following an injury.

Findings by Yang et al. (2010), revealed that following an injury, athletes significantly increased their reliance on coaches and athletic trainers for social support. Other sources of support (family and friends) remained constant before and after an injury. Coaches and athletic trainers are likely sources of social support for injured athletes as they are seen daily by college athletes, and for some athletes they view coaches/athletic trainers as “parents” when they are away from home. Gender differences were examined in this study. The only gender difference reported was a greater
satisfaction with social support provided to female athletes from coaches following an injury.

Yang et al. (2014) supported these findings in an additional study of 387 athletes from two NCAA Division I universities. In the second study, 84.3% of the injured athletes reported receiving social support from athletic trainers. Athletic trainers were further identified as high quality sources of social support. In this study, 79.3% of athletes identified athletic trainers as someone they could really count on following an injury. The athletic trainers were identified as providing support through acceptance, helping injured athletes feel relaxed, consoling injured athletes, and caring for them.

The provision of greater social support from athletic trainers is supported by Robbins and Rosenfeld (2001). In this study, 35 athletes from a range of sports, that included: revenue, non-revenue team, and non-revenue individual types completed a social support survey following an injury that caused them to miss at least three or more days of competition. It was determined that athletes were significantly more satisfied with the support athletic trainers provided than the head coach or assistant coach for seven of the eight types of social support identified by Richman et al. (1993). The exception to this satisfaction was with emotional challenge support. Athletes reported equal levels of emotional challenge support from both coaches and athletic trainers (Robbins & Rosenfeld, 2001).

The presence of consistent social support from athletic trainers for injured athletes was supported by Clement and Shannon (2011). A total of 49 injured college athletes from NCAA Division II and III institutions were recruited for participation. The severity
of their injuries were reported as minor \((n = 10)\), moderate \((n = 17)\), or severe \((n = 22)\). Athletes rated their satisfaction with and the availability eight types of social support provided. The injured athletes reported social support was equally available from athletic trainers, coaches and teammates. However, athletes reported a better overall satisfaction with the social support provided by athletic trainers over their coaches and teammates in all eight areas.

**Athletes’ Perceptions of Social Support from Coaches**

Athletes have identified coaches as inconsistent providers of social support in the literature (Abgarov et al., 2012; Podlog & Eklund, 2006; Robbins & Rosenfeld, 2001). Many studies have demonstrated that coaches can be reliable and effective sources of social support for injured athletes (Abgarov et al., 2012; Bianco, 2001; Podlog & Eklund, 2006; Robbins & Rosenfeld, 2001; Udry, 1997). This support can come in the form of empathy (Abgarov et al., 2012), providing appropriate physical challenges (Bianco, 2001), reassurance and advice (Ford & Gordon, 1999), and assistance in overcoming fears (Podlog & Eklund, 2006). However, coaches might not always provide the support injured athletes are seeking (Abgarov et al., 2012; Podlog & Eklund, 2006). In some studies, coaches do not provide the support athletes need or the support they need is not sufficient. Most often this lack of support comes in the form of pressure to return to play too quickly following an injury (Abgarov et al., 2012; Podlog & Eklund, 2006). However in a majority of studies reviewed, athletes were satisfied with the social support provided by their coach following an injury (Abgarov et al., 2012; Bianco, 2001; Podlog & Eklund, 2006; Robbins & Rosenfeld, 2001; Udry, 1997).
Bianco (2001) demonstrated the importance of coaches providing social support. In this study, ten Canadian national team skiers were interviewed following their recovery from an injury that caused at least one month loss of a competitive season. The skiers identified coaches as a major source of social support. Specifically, coaches were identified as sources of emotional, informational, and tangible support during the early rehabilitation phase. As the rehabilitation progressed, coaches remained sources of emotional and tangible support in addition to providing informational support. It was reported that coaches were key in enabling the injured athlete to make a successful return to competition. Coaches provided social support by setting realistic goals, aiding the athlete in overcoming fears, and recognizing improvements. These findings were supported by Abgarov et al (2012). In this study, collegiate swimmers similarly reported coaches being caring and making accommodations for them following an injury.

Additionally, Corbillon et al. (2008) demonstrated athletes’ satisfaction with social support following an injury. In this study, Canadian university athletes (N=72) were surveyed about their satisfaction with social support provided and how that social support played a role in their recovery. Using the types of social support defined by Richman et al. (1993), athletes reported both high levels of the availability and satisfaction with social support from their coaches.

However, several studies suggest athletes sometimes perceive a lack of social support from coaches following an injury (Abgarov et al., 2012; Podlog & Eklund, 2006; Udry, 1997). The lack of support commonly comes in the form of significant pressure from a coach for injured athletes to return to play before they are physically or mentally
ready (Abgarov et al., 2012; Podlog & Eklund, 2006; Robbins & Rosenfeld, 2001; Udry, 1997) or the perception of being ignored while they are not able to fully participate (Bianco, 2001; Robbins & Rosenfeld; 2001; Udry, 1997). In this case, pressure to return too quickly from an injury is the opposite of what injured athletes need. Instead of perceiving support, athletes have the sense of pressure to do the exact opposite what they should be doing. This could lead to a negative cognitive evaluation of the injury and subsequent negative behavioral and emotional responses.

Abgarov et al. (2012), supported the negative effects a coach can have on an injured athlete. Canadian university swimmers (N=12) were asked about their experiences with social support for injuries in this study. Swimmers were asked about an injury that occurred at least three years prior to data collection. In this study, 10 out of 12 athletes reported that the coach was perceived to be in denial over the injury. Additionally, 5 out of 12 athletes reported the coach did not modify practice to accommodate for their injury, and 5 out of 12 athletes reported conflict between the coach and athletic trainer on recommendations for a rehabilitation program. Two issues are raised from this result. First, coaches appear to not universally support injured athletes in the manner they should. Additionally the issue of athletic trainer-coach conflict and its effects on injured athletes is raised. The effects of conflict in this study are not specifically identified, however, the presence of conflict during the rehabilitation was reported.

The finding by Abgarov et al. (2012) was reinforced by Gould et al. (1997). In this study, United States national skiers (n = 21) were used as participants in this study.
To be included in this study, participants had to have suffered an injury that prevented a skier from missing three or more months of practice or competitions. The skiers were an average of 23.9 years old. Data collection occurred, on average, 31 months after the injury occurred. The injured athletes were interviewed on their psychological, social, physical, medical, and financial concerns, and the support that was provided in these areas. Athletes (66.6%) reported a feeling of isolation and a lack of support from coaches. It was reported that coaches commonly turned away from injured athletes, did not talk to them, and overall made the injured athletes feel isolated.

While injured athletes appear to perceive the provision of social support, this perception is not consistent among all injured athletes. (Abgarov et al., 2012; Bianco, 2001; Ford & Gordon, 1999; Gould et al., 1997). The main source of support coaches appear to provide is information (Ford & Gordon, 1999), empathy (Abgarov et al., 2012), and appropriate physical training modifications (Bianco, 2001). These are forms of social support the injured athlete clearly needs. During the repetitive cognitive evaluations of an injury, the support a coach provides may allow for the athlete to make a positive cognitive evaluation and have subsequent positive emotional and behavioral responses. However, coaches may also be the exact opposite of supportive following an injury. They may be a source of pressure and conflict (Abgarov et al., 2012; Bianco, 2001; Robbins & Rosenfeld, 2001; Udry, 1997). These negative factors may cause an injured athlete to appraise an injury differently. This negative cognitive evaluation may lead to negative emotional and behavioral responses to an injury (Wiese-Bjornstal et al., 1995). However, coaches are not the only sources of social support athletes, and in particular collegiate
athletes turn to following an injury. Healthcare providers, and in particular athletic
trainers, can also be a valuable source of support for injured athletes (Clement &
Shannon, 2011; Gould et al., 1997; Robbins & Rosenfeld, 2001).

**Athletes’ Perceptions of Social Support from Healthcare Professionals**

Several studies have suggested that athletes feel athletic trainers and other allied
healthcare professionals are a major source of social support following an injury (Bianco,
2001; Clement & Shannon, 2011; Gould et al., 1997; Robbins & Rosenfeld, 2001). In
particular, athletic trainers have been reported as being good listeners (e.g., Robbins &
Rosenfeld, 2001), helpful in dealing with stress (e.g., Gould et al., 1997), sources of
education (e.g., Fisher & Hoisington, 1993) and sometimes a better source of social
support than coaches (e.g., Clement & Shannon, 2011) by injured athletes. Additionally,
athletic trainers can sometimes be a preferred sources of psychological support
(Washington-Lofgren, Westerman, Sullivan & Nashman, 2004). In this study, athletes
(n = 52) felt they were important to the athletic trainer as was their physical and
psychological recovery. In the qualitative portion of this mixed method study, one athlete
went so far to say that they would prefer seeing the athletic trainer over a sport
psychologist. This athlete felt the athletic trainer would prioritize their care more than a
clinical sport psychologist would (Washington-Lofgren et al., 2004).

The type of social support provided by athletic trainers may need to be modified
as the injured athlete recovers. As Bianco (2001) suggests, athletes seek out different
types of social support during the entire rehabilitation. Specific to healthcare
professionals, athletes sought emotional, informational, and tangible forms of social
support at some point following an injury. However, once the athlete was ready to return to participation, healthcare professionals were more heavily relied upon for informational support while being sought out for very little emotional and tangible support. Earlier on in the rehabilitation healthcare professionals did need to provide emotional support in addition to informational support. The change occurred when the athlete wanted information from the healthcare professionals to evaluate their recovery and make realistic goals.

Athletic trainers are perceived to be consistent and quality providers of social support (Clement & Shannon, 2011; Robbins & Rosenfeld, 2001; Yang et al., 2010). In particular, athletic trainers appear to be the largest provider of social support for collegiate athletes following an injury. This characteristic could come from their professional education. Within athletic training programs, a domain of educational competencies on psychosocial techniques for dealing with injured patients is present (National Athletic Trainers’ Association Executive Committee for Education, 2010). These educational requirements allow for athletic trainers to potentially be well equipped to provide social support in these situations.

However, despite their educational preparation, there is minimal evidence in the literature of athletic trainers not providing quality social support at all times. Abgarov et al. (2012) found only 3 out of 12 collegiate swimmers identified athletic trainers of having providing caring support following an injury. Almost half, 5 out of 12 swimmers, indicated athletic trainers did provide quality support. Additionally, 4 out of 12 swimmers indicated a lack of informational support provided by the medical professionals. The lack
of informational support came from a perceived lack of knowledge of treatment or support (Abgarov et al., 2012).

The study by Abgarov et al. (2012) was the only article found that reported injured athletes describing the social support they received from healthcare providers in a negative manner. As this study was conducted in another country, the equivalent of athletic trainers were used. Thus, conclusions should be taken with caution. Athletic trainers have been demonstrated to be good and reliable sources of social support for injured athletes (Clement & Shannon, 2011; Gould et al., 1997; Robbins & Rosenfeld, 2001). In particular, collegiate athletes have perceived athletic trainers to be quality sources of social support following an injury (Yang et al., 2010; Yang et al., 2014). The forms of support needs to evolve throughout the athlete’s rehabilitation (Bianco, 2001).

There are several variables that can explain how the social support provided to an injured athlete can vary (Barefield & McCallister, 1997; Corbillon et al., 2008; Yang et al., 2010).

Variables of Social Support

While social support is sought by injured athletes, it is important to understand if there are relationships between various demographics and how support is provided or perceived to be provided. In addition, understanding if specific behaviors, such as rehabilitation adherence, can be tied to the provision of social support could lead to better outcomes. Social support appears to be an important variable that could influence both the short and long term outcomes for injured athletes through their adherence to their rehabilitation program (Duda et al., 1989; Fisher et al., 1988; Udry, 1997). In regards to
possible relationships between demographics and social support, there are several studies that have examined these relationships (Barefield & McCallister, 1997; Clement & Shannon, 2011; Corbillon et al., 2008; Yang et al., 2010). The specific variables examined include: gender and status on the team. For this study, the possible relationship between an athlete’s gender, sport, role on the team, and level of NCAA competition will be examined.

The possible relationship between gender and social support has been examined by Corbillon et al. (2008) and Yang et al. (2010). In the study by Corbillon et al. (2008) male and female athletes were asked about the provision of and satisfaction with eight types of social support from their coaches and teammates. A gender difference was noted for only a single type of social support; emotional challenge support from coaches was rated significantly higher by females. A greater satisfaction by females with the provision of social support from coaches was found by Yang et al. (2010). In this study, athletes reported both the sources of and satisfaction with social support before and following an injury. Specific types of social support were not analyzed in this study. Instead only the satisfaction with overall social support was greater for females than males. These two studies were the only ones found examining a relationship between gender and social support. If a relationship does exist, this would be important for those working with injured athletes to understand to ensure proper social support was being provided.

Another potential demographic variable that could result in differences in perceptions of social support is the competitive level of the athlete or athletic program. No study has directly compared the social support perceived by NCAA Division I, II, and
III collegiate athletes. In studies by Barefield and McCallister (1997), Yang et al. (2010), and Robbins and Rosenfeld (2001), Division I collegiate athletes were utilized. The results of the studies by Barefield and McCallister (1997), Robbins and Rosenfeld (2001), Yang et al. (2010), and Yang et al. (2014) suggest that NCAA athletes desire social support following an injury and athletic trainers and coaches are a heavily relied upon source for this support. Clement and Shannon (2011) used NCAA Division II and III athletes, however, no between group differences were calculated for NCAA Division II and III athletes. Thus, no conclusion can be made as to whether the level a collegiate athlete competes at can effect the social support perceived from either coaches or athletic trainers.

There may be a relationship between the amount of social support provided and the athlete’s role on the team. Corbillon et al. (2008), reported differing levels of satisfaction with social support from starters and non-starters. The participants in this study were from small Canadian University. Starters were more satisfied with their coaches’ task appreciation and their teammate’s listening support and task appreciation. These results do not suggest an overwhelming difference in social support for starters compared to non-starters. However, such a relationship may exist.

The amount of social support provided to injured athletes could be modified by some external variables (Corbillon et al., 2008; Yang et al., 2010). Specifically, an athlete’s role on the team could have some impact on social support (Corbillon et al., 2008). Additionally, an athlete’s gender also might have a small impact in how social support is perceived (Yang et al., 2010). However, these conclusions are made with
caution. They have been evaluated in only a single study. While the results were statistically significant, the findings need to be examined in future studies to confirm these conclusions.

No matter what variables may be impacting the provision of social support, for social support to be provided to injured athletes, the sources of this support must be aware of its importance. Athletic trainers and other healthcare providers must understand the importance of social support. If athletic trainers understand the role social support can play in an athlete’s recovery (Larson, Starkey, & Zaichkowsky, 1996; Tracey, 2008; Wiese et al., 1991), they may be more likely to make a conscious effort in providing it.

Healthcare Professionals’ Perceptions of Social Support

Athletes’ perceptions of social support is important to the cognitive appraisal following an injury (Tracey, 2003; Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). However, those in contact with an injured athlete need to be aware of the importance of social support as well. If athletic trainers are not aware of the potential negative consequences of decreased social support, they may not provide adequate support. Thus, how athletic trainers perceive social support should be examined.

The importance of the psychological recovery of an injured athlete is well understood by the athletic trainer (Tracey, 2008; Wiese et al., 1991). Athletic trainers identified social support as an important part of the rehabilitation of an athlete (Larson et al., 1996; Tracey, 2008; Wiese et al., 1991). According to athletic trainers, this support could be a possible factor that separates successful and unsuccessful athletes (Larson et al., 1996). Wiese et al. (1991) surveyed both certified athletic trainers and athletic
training students about the importance of psychology in the athletic training room. Informational social support was identified by athletic trainers and athletic training students as one of the top three factors that determines how well athletes cope with an injury.

Tracey (2008) examined the views of healthcare providers on the psychological recovery of injured athletes in the clinical setting. In this study physical therapists and athletic trainers were interviewed about how they specifically can help an athlete psychologically recover following an injury. Three major themes were identified by the healthcare professionals: rapport building, education, and communication. Many of the eight areas of social support were identified by the participants: Listening support, identified as being a sounding board for the athletes; emotional support, identified as learning about the individual and building confidence; reality-confirmation support, identified as balancing understanding; and realism, and task-challenge support, identified as reducing fears during recovery; Additionally, informational support was identified by providing the athlete with treatment options and explanations about the injury and the human anatomy involved. The healthcare professionals interviewed for this study identified the need for themselves to be a source of multiple types of support for the athletes during their rehabilitation.

Athletes have reported the importance of informational social support during their recovery (Bianco, 2001; Johnston & Carroll, 1998). Athletic trainers also appear to understand the importance of this specific type of support in the rehabilitation process. The importance of informational support from athletic trainers was supported by Wiese et
Certified athletic trainers and athletic training students identified communication skills by the athletic trainer as the most important skills for athletic trainers to have when working with an injured athlete. This skill would be necessary to provide an athlete with both information about the injury and the ability to listen to an injured athlete talk about their emotions and thoughts.

Athletic trainers are sought out for social support following an injury (Clement & Shannon, 2011; Johnston & Carroll, 1998; Yang et al., 2010). Healthcare providers, and in particular athletic trainers both appear to understand the need for social support and possess the skills necessary to provide this support (Larson et al., 1996; Tracey, 2008; Wiese et al., 1991). However, athletic trainers are not the only source of social support injured collegiate athletes seek out for social support. Coaches are also important sources of social support for athletes following an injury (Podlog & Eklund, 2006; Yang et al., 2010).

Coaches’ Perceptions of Social Support

While athletic trainers appear to understand and provide quality social support to athletes, the manner in which coaches attempt to do the same appears to follow a different pattern (Podlog & Dionigi, 2010; Podlog & Eklund, 2007). Overall, very little was found in the literature about coaches perceptions of social support for injured athletes. What was found demonstrated that coaches do understand the need for social support (Podlog & Dionigi, 2010; Podlog & Eklund, 2007). However, in these two studies the coaches provide differing reflections on the social support that is actually provided.
Coaches in the study by Podlog and Dionigi (2010) identified social support as a major and necessary component following an injury. In this study, coaches ($N = 8$) from a Sport Institute in Perth, Australia participated. The participants ($n = 3$ female, $5$ male) were interviewed about their experiences with injured athletes and the psychosocial challenges the athletes’ faced. The coaches ranged in age from 25-53 years and had tenures of 2-20+ years of working with athletes. The coaches interviewed were involved in a variety of sports including rowing, athletics, water polo, and field hockey.

The importance of a team approach and communication between all parties involved with the rehabilitation were identified in this study (Podlog & Dionigi, 2010). Social support was identified by coaches as a major component of how the athletes recover. Coaches felt that by keeping the athletes involved with the team, injured athletes would not feel isolated. This involvement could come in the form of a team activity outside of practice or a one-on-one session with the coach. These activities reinforce the idea that the coach does want what is best for them and in this case that is a full recovery from their injury.

Coaches will sometimes not provide adequate social support for injured athletes. Podlog and Eklund (2007) interviewed 14 coaches from Australia and New Zealand. The coaches were from a variety of sports, and had a mean of 11.29 years of coaching experience. During the course of the interviews, coaches openly admitted the pressure and sometimes lack of support they can place on the athlete to return to play too soon. They feel the pressure is unintentional and simply from a natural competitiveness. However, coaches do recognize the need to provide emotional, tangible, and
informational support. These forms of support can come from discussion about negative aspects of the injury and rehabilitation, challenging the athlete who sets expectations too high, and giving the athlete positive feedback on their recovery when possible.

Coaches (Podlog & Dionigi, 2010; Podlog & Eklund, 2007) and athletic trainers (Larson et al., 1996; Wiese et al., 1991) both appear to understand at some level the importance role social support plays in an athlete’s rehabilitation. With this support, athletes can make positive cognitive evaluations about possible outcomes with their injury (Wiese-Bjornstal et al., 1995). One of the most important steps during their recovery is adhering to their rehabilitation program (Prentice, 2011). Social support may aid in improving the rehabilitation adherence of injured athletes (Bone & Fry, 2006; Duda et al., 1989; Fisher et al., 1988; Johnston & Carroll, 1998; Udry, 1996).

Social Support and Rehabilitation Adherence

As Udry (1996) identified, social support is important in order for an injured athlete to adhere to their rehabilitation program. Without social support the cognitive appraisals an injured athlete makes could lead to decisions that may alter their behaviors, such as missing rehabilitation sessions or decreasing effort put forth. These decisions come from a perceived lack of social support necessary to overcome the stress present following an injury, and in particular the stress felt during a rehabilitation program. A rehabilitation program is designed to provide conditions where maximal healing can occur. This is through the use of therapeutic modalities and exercises. If an athlete does not complete these treatments or exercises, healing time may take longer (Prentice, 2011). A relationship between social support and rehabilitation adherence is supported in
the literature. Most studies have found a possible relationship between social support and rehabilitation adherence (Bone & Fry, 2006; Duda et al., 1989; Fisher et al., 1988; Johnston & Carroll, 1998; Udry, 1996), while Udry (1997) did not find a relationship between social support and rehabilitation adherence.

Fisher et al. (1988), examined factors of rehabilitation adherence. In their study, 41 college athletes completed a questionnaire following rehabilitation from an injury that lasted at least six weeks. Constructs of interest included: perceived exertion, pain tolerance, self-motivation, rehabilitation session schedule, environmental conditions, and social support. Support from others was the strongest predictor of rehabilitation adherence.

Byerly et al. (1994), Duda et al. (1989), and Fisher and Hoisington (1993) had similar results. For example, Byerly et al. (1994) and Duda et al. (1989) found that social support was one of the largest predictors of adherence to rehabilitation programs among many additional factors. Fisher and Hoisington (1993) and Bone and Fry (2006) also found a relationship between social support and rehabilitation adherence. Bone and Fry (2006) surveyed 57 Division I athletes about their perceptions of social support and beliefs about rehabilitation. The participants reported a strong relationship between social support and adherence, but only when the severity of the injury was diagnosed as severe. In particular, task challenge support and tangible assistance (e.g., doctor appointment or providing a brace) support was linked to rehabilitation adherence for an athlete with a severe injury. An athlete with a mild or moderate injury was not more or less likely to
adhere to their rehabilitation program, regardless of the level of social support their athletic trainer provided.

Fisher and Hoisington (1993), also found a possible connection between social support and adherence. Participants in this study included athletes from Colgate University, Cornell University, and Ithaca College who had gone through a rehabilitation that lasted at least three months. In this study, 89% reported that a good athletic trainer-athlete relationship assisted with adherence in a rehabilitation program. Additionally, 42% identified an athletic trainer with a caring attitude as a successful rehabilitation strategy.

Following an injury, an athlete must perceive assets are available that will allow for them to cope with the injury and its effects on their sport participation and normal daily activities (Tracey, 2003; Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). One of these assets that can be of great use is the perception of social support available from family, friends, teammates, and coaches (Ford & Gordon, 1999; Gould et al., 1997; Udry, 1996). Athletes will use this support throughout the rehabilitation process. The type of support needed and from whom that support is sought can vary (Bianco, 2001; Johnston & Carroll, 1998). In particular, collegiate athletes seek out support from their coaches and athletic trainers (Abgarov et al., 2013; Clement & Shannon, 2011; Yang et al., 2010). Thus, coaches and athletic trainers need to understand what social support is and how providing it can aid the athlete in their recovery. Athletic trainers appear to understand the important role they play in an injured athlete’s rehabilitation (Larson et al., 1996; Tracey, 2008; Wiese et al., 1991). Whether coaches fully appreciate the role
their support plays in the athlete’s recovery is unclear (Podlog & Dionigi, 2010; Podlog & Eklund, 2007). One of the main reasons athletes need to perceive the presence of social support is rehabilitation adherence. A relationship appears to be present between the social support perceived by the injured athlete and how well an injured athlete adheres to and performs at rehabilitation sessions (Bone & Fry, 2006; Duda et al.; 1989; Fisher et al., 1988; Johnston & Carroll, 1998; Udry, 1996).

If an injured athlete were to perceive social support was not present following an injury, this could cause a negative cognitive evaluation to occur (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). A negative cognitive evaluation could lead negative behavioral and emotional responses from the athlete (Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). Additionally, a negative cognitive evaluation could lead to decreased rehabilitation adherence (Bone & Fry, 2006; Duda et al., 1989; Fisher et al., 1988; Johnston & Carroll, 1998; Udry, 1996). Thus, understanding any factors that could negatively affect how an athlete perceives social support is important. Of particular interest to this study is the possible role conflict may play in effecting an injured athlete’s perceptions of social support.

**Conflict**

The presence of conflict is a normal occurrence in the working environment (Frone, 2000). This study aims to determine the relationship athletic trainer-coach conflict may have with perceived social support in the athletic environment. While conflict is a normal part of a functional working environment, most organizations try to diminish or eliminate its presence (Rahim, 2002). The concept of conflict has been
studied extensively (e.g., Wall & Callister, 1995). However, despite the extensive literature devoted to conflict, many areas are not understood.

A variety of definitions of conflict are found in the literature. One concept of conflict was conceptualized by Rahim (2002) as, “an interactive process manifested in incompatibility disagreement or dissonance within or between social entities” (Rahim, 2002, p. 207). Barki and Hartwick (2004) provided a thorough review of all definitions of conflict in the literature. From this review, three consistent components in the definition of interpersonal conflict emerged: disagreement, negative emotion, and interference. All three components of conflict do not have to be present in each instance of conflict. However, a single component or combination of the three components has been found consistently in studies of conflict (Barki & Hartwick, 2004).

Beyond the initial definition and components of conflict, the concept of conflict has been further broken down into different types of conflict. Common types of conflict found in the literature include: task conflict, relationship conflict, process conflict, and emotional conflict (Barki & Hartwick, 2004; DeDreu & Beersma, 2005; Jehn, 1995). According to Jehn (1995), relationship conflict arises from interpersonal incompatibilities due to tension, animosity, and annoyance. Task conflict develops out of disagreements on viewpoints, ideas, and opinions on the work or tasks being done. Barki and Hartwick (2004) indicated task conflict can also lead to relationship or emotional conflict. Conflict at the personal level affects feelings caused by initial disagreements over how to perform a task. For the current study, the definition of conflict developed by Barki and Hartwick (2004) will be used.
Causes of Conflict

There are multiple causes of conflict (Wall & Callister, 1995). In a systematic review by Wall and Callister (1995) over 40 causes of interpersonal conflict were identified in the literature. Of importance to this study were: commitment to position, stress, other’s behaviors seen as harmful, distrust of others, misunderstandings, dislikes, blocking party’s goals, power struggles, power imbalance, status differences, past history of conflict, and interdependence. Collectively, causes of interpersonal conflict can be categorized into individual characteristics, interpersonal factors, communication, behavior, structure, and previous interactions as the sources of conflict.

These sources of conflict are inherently present in the athletic trainer-coach relationship. For example; individual characteristics, such as differing goals, could cause an athletic trainer-coach conflict. A coach may need a player to help the team win, while the athletic trainer may feel the player is not yet ready to play (Pitney, 2006). An example of an interpersonal factor would be a distrust between the athletic trainer and coach (Podlog & Eklund, 2007). Conflict due to communication could be caused by misunderstandings between an athletic trainer and coach. Power struggles between the athletic trainer and coach could lead to behavior causing more conflict. These power struggles do occur in college athletics (Wolverton, 2013). Additionally, power imbalances in NCAA Division I football between coaches and athletic trainers would be an example of structure causing conflict (Wolverton, 2013). Finally, an example of previous interactions leading to conflict could be a past history of conflict between a
coach and athletic trainer. Similarly, as there are many causes of conflict, there are many outcomes that can result from conflict.

**Effects of Conflict**

Conflict can have many influences on individuals in the working environment (DeDreu & Beersma, 2005; Jehn, 1995). First, conflict may not be bad in all situations. According to Jehn (1995), a curvilinear relationship exists for interpersonal conflict in non-routine tasks. This conclusion came from a study of 589 workers at an international shipping firm. For specifically non-routine tasks some conflict did result in an increase in productivity. A lack of conflict resulted in complacency and decreased production.

Additionally, high levels of conflict led to arguments that became overwhelming and diminished work outcomes. However, an ideal level of conflict that stimulated production did exist for non-routine tasks.

The classification of the rehabilitation and return to play decision for an athlete as either a routine or non-routine task was not found in the literature. However, based on the uniqueness of each athlete and their injury, the return-to-play decision could be classified as a non-routine task. The non-routine aspect of the task comes from the individuality of each athlete, the variability of injuries, and the variability of the competitive environment. Thus, according to Jehn (1995), some conflict may be good for this process while too much conflict would be a negative. However, the effects of conflict on an injured athlete was not found in the literature. This study aims to determine if athletic trainer-coach conflict does have an effect on the perceived social support an athlete receives.
A clearer picture emerges about the negative effects interpersonal conflict has on the work environment. Interpersonal conflict can lead to tension (Jehn, 1995; Wall & Callister, 1995), lower quality work (Cortina & Magley, 2009; Jehn, 1995; Jehn, Rispens, & Thatcher, 2010; Wall & Callister, 1995.), decreased work relationships, unhappiness (Jehn, 1995), increased stress (Cortina & Magley, 2009; Frone, 2000), increased worker turnover (Cortina & Magley, 2009; Frone, 2000; Wall & Callister, 1995), frustration (Cortina & Magley, 2010), depression (Frone, 2000), decreased health and fatigue (DeRaeve, Jansen, Brandt, Vasse, & Kant, 2009), decreased communication, hostile actions, venting, protest and decreased coordination between co-workers (Wall & Callister, 1995).

These effects indicate interpersonal conflict appears to have both a direct effect on the participants in the conflict, but also the potential for the conflict to effect those around the involved individuals. Lower quality work, unhappiness, employee turnover, decreased communication, and decreased coordination could have an effect on others (Frone, 2000; Wall & Callister, 1995). The effects of athletic trainer-coach conflict on athletic trainers has been well studied (e.g. Capel, 1986; Hendrix et al., 2000; Mazerolle et al., 2013). Those effects are consistent to what is found in the literature: depression, increased employee turnover, and increased burnout and stress (Capel, 1986; Hendrix et al., 2000; Kania et al., 2009). Perhaps athletic trainer-coach conflict could have an effect on athletes as well.
Responses to Conflict

Understanding how individuals will respond to interpersonal conflict is important. This could provide insight for the possible effects of athletic trainer-coach conflict on the social support perceived by injured athletes. Cortina and Magley (2009) examined the responses of individuals to conflict. Participants were drawn from employees at a small public university, attorneys in federal practice, and employees of a federal judicial circuit. The method of coping with interpersonal conflict represented four categories: support seekers, detachers, minimizers, and prosocial avoiders/Assertive avoiders. Individuals in each group dealt with conflict in different ways. Support seekers actively sought informal social and organizational support from supervisors. Detachers separated themselves not only from the conflict situation, but also from coping efforts as well. Minimizers attempted to prevent conflict by evading negative interactions. Finally, prosocial conflict avoiders did not approach sources of conflict, but did seek to gain social support from others. Within the entire group of participants, the most commonly used method of coping with stress was detachment. Avoidance (prosocial and assertive) was utilized most commonly when a superior was involved in the conflict.

Rahim (1986) and DeDeru and Beersma (2005) have both concluded that the roles of the individuals involved in a conflict can determine how the conflict will be managed. Rahim (1986) surveyed 1,219 business executives on conflict management preferences. A pattern of obliging superiors, integrating subordinates and compromising with peers was reported.
DeDeru and Beersma (2005) conducted a synthesis of research on conflict. In the area of conflict management, they concluded the concern one has for themselves in addition to the concern one has for their co-workers will determine the response to conflict. Personalities and situations determine the level of concern present and the ultimate response to the conflict. Power motivation, incentives, level of aspiration, and power preponderance were found to be factors that specifically influenced the response to conflict.

Conflict appears to have mostly negative effects (Cortina & Magley, 2009; Jehn, 1995; Wall & Callister, 1995). These effects include unhappiness (Jehn, 1995), decreased communication, and decreased coordination (Wall & Callister, 1995). These could all negatively influence feelings of support. Additionally, the role a person has in a given situation of conflict can determine how conflict can affect them (Rahim, 1986; DeDeru & Beersma, 2005). Of particular interest in the possible effect of conflict on third parties. Parallel arguments of the effects on athletes from coach-parent conflict and the effects on patients from between healthcare provider conflict are of particular interest. If conflict can effect the third party in these situations, an injured athlete could also be effected by athletic trainer-coach conflict.

Effects of Coach-Parent Conflict on Athletes

A parallel argument for the effects of athletic trainer-coach conflict on athletes can be seen in the effects of coach-parent conflict on athletes. A review of the literature reveals conflict between coaches and parents could negatively effect an athlete (Jowett & Cramer, 2010; Tamminen & Holt, 2012). In particular, coach-parent conflict can affect
both the relationship an athlete has with one of the two parties (Jowett & Timson-
Katchis, 2005) and how the athlete views themselves (Jowett & Cramer, 2010).

A parent and a coach both play important roles in the life of an athlete. This is
particularly true when the athlete is younger and begins to participate in sports (Weiss &
Fretwell, 2005). The literature describes roles that both the parent and coach share and
fulfill for the athlete. The athlete uses the coach more readily as a role model, provider of
experiences, and an interpreter of experience (Weiss & Fretwell, 2005). This relationship
has characteristics of commitment, trust, tolerance, instructional support, and privacy
(Jowett & Timson-Katchis, 2005). Parents’ actions during sport participation are related
to the child’s improving psychological and behavioral outcomes (Weiss & Fretwell,
2005). The parent and coach both serve to increase perceived competence and autonomy
of the athlete and as a means of coping. During stress that can arise during sport
participation, the parents and coach can provide perspective, foster independence, and
share their own similar experiences. These stressful situations are potential learning
opportunities for the athlete to better cope with stress in the future (Tamminen & Holt,
2012).

As athletes begin to age and develop, the roles of parents and coaches change for
the athlete. In adolescence, coaches begin to provide more informational and tangible
support (Jowett, 2008). Parents become relied upon less for informational support, and
more for emotional support (Jowett & Timson-Katchis, 2005)

While athletes may seek out different types of support from parents and coaches,
coach-parent conflict should not be present. Coaches and parents should have the same
goals for the athlete (Hopper & Jefferies, 1990). However, coach-parent conflict is common (Smoll, Cumming, & Smith, 2011). Several common sources of this conflict have been found. They include: coach giving parental advice or critical feedback to the athlete (Hellstedt, 1987), unmatched parent and coach goals for the athlete, unequal evaluations of an athlete’s ability (Smoll et al., 2011), decreased support and excessive criticism of the coach by the parent, over or under involvement by the parent (Jowett & Timson-Katchis, 2005), and negative or poor communication between the coach and parent (Jowett & Cramer, 2010; Jowett & Timson-Katchis, 2005). These sources of conflict are similar to those in athletic trainer-coach conflict; non-congruent goals, different evaluations on whether an athlete should play, and critical feedback from a less educated side to a trained professional (Goodman et al., 2010; Pitney, 2006; Wolverton, 2013).

The coach-parent conflict appears to have an effect on the athlete (Jowett & Cramer, 2010; Jowett & Timson-Katchis, 2005). The conflict appears to be demonstrated in psychological changes, decreased trust, and a diminished desire to continue participation in the sport (Jowett & Cramer, 2010; Jowett & Timson-Katchis, 2005). Of importance is the decreased relationship between the coach and athlete due to coach-parent conflict. As is indicated in the study by Jowett and Timson-Katchis (2005), parents can be both effective in strengthening and dissolving the athlete-coach relationship. This effect of conflict is supported by Jowett and Cramer (2010).

Coach-parent conflict provides a parallel argument to this study. The source of coach-parent conflict is similar to the source of athletic trainer-coach conflict. The
literature suggests that different goals or evaluations of the athlete can cause coach-parent conflict (Smoll et al., 2011). As previously discussed, the decision of when an athlete is ready to play again following an injury is a common source of conflict (Creighton et al., 2010; Wolverton, 2013). This conflict is sometimes caused by the coach and athletic trainer having different goals (Mazerolle et al., 2013; Pitney, 2006; Pitney et al., 2002) and also having different evaluations on the athlete’s present abilities (Wolverton, 2013). Additionally, poor communication can be the source of coach-parent conflict (Jowett & Cramer, 2010; Smoll et al., 2011). It would be likely that poor communication could also cause athletic trainer-coach conflict as well.

Perhaps the most important effect to note is the decreased trust athletes can develop from coach-parent conflict. If a parent displays dislike and distrust for a coach, this can decrease the trust and overall relationship between the coach and athlete (Jowett & Cramer, 2010; Jowett & Katchis-Timson, 2005). If this occurs in the presence of coach-parent conflict, it is also possible that trust and the relationship between an athlete and coach or an athlete and athletic trainer could be effected in the presence of athletic trainer-coach conflict.

Similarly, conflict can have negative effects in the healthcare setting. Nurse-physician and between physician conflict is a common occurrence in healthcare (Greenfield, 1999; Rosenstein & O’Daniel, 2005). Thus, like coach-parent conflict, between healthcare provider conflict could effect a third party, in this case the patient (Baggs et al., 1999; Hewett, Watson, Gallois, Ward & Leggett, 2009; Rosenstein & O’Daniel, 2005).
Effects of Conflict Between Healthcare Professionals on Patients

A parallel argument can be seen from the effects from conflict between healthcare providers on their patient’s injury or illness outcomes to the effects of athletic trainer-coach conflict on injured athletes. If this relationship is present in medicine between two groups of individuals both working with a patient and trying to help a patient overcome an injury or illness, the same relationship could be present in athletics.

The source of the physician-nurse conflict has been examined in the literature (e.g., Greenfield, 1999; Larson, 1999; Powell & Davies, 2012). Potential boundaries and social norms are present in the medical community between physicians and nurses (Greenfield, 1999; Katzman & Roberts, 1988). These boundaries may be the source of potential conflict in the clinical practice setting. Greenfield (1999) identified the sources of potential conflict arising in the United States medical system from the roots of their profession. Within the United States, nursing began as a profession without an adequate educational system. Vagrants, ex-convicts, or night watchmen were utilized in nursing roles in the late 1800s in the northeastern United States, thus the profession was not looked upon highly.

Once a formal educational system was developed for nurses, the differences in the education also provided for the potential for boundaries (Larson, 1999; Powell & Davies, 2012). Physicians were educated in medical schools, not in the traditional college campus. Nurses were educated in undergraduate programs and liberal arts schools. This difference in education paths provided differing viewpoints on how to view and treat patients (Larson, 1999). This system allowed for nurses to become hindered by norms
within the profession. Nurses were looked upon differently by physicians. Physicians would not fully trust a nurse due to their education, treat nurses as subordinates, and created a hierarchy (Powell & Davies, 2012).

Additionally, the social norms accepted by physicians and nurses may provide an environment where conflict is possible. Katzman and Roberts (1988) identified the effects of roles played on physicians and nurses through an observational study of 14 traditional female nurses and 11 female nurse practitioners in a non-profit hospital. In this case, physicians were predominantly male, and nurses were female. During the observational and interview portions of this study, nurses reported feeling like subordinates and acting like subordinates to the physicians. This was due to the “roles” and “expected behaviors” from females in society towards males carrying over to the work environment. It was observed that nurses would be subordinate to physicians without even realizing.

The effect of social norms as a source of between healthcare provider conflict was supported by Fagin (1992). The profession of nursing is seen as mundane and routine, and not highly appreciated by the public or physicians. Additionally, nurses avoided “rocking the boat.” When dissatisfied with the physician, nurses did not address or comment on the disagreement. This prevented conflict, but caused feelings of dishonesty and disappointment in the nurses. The lack of communication could prevent the development of a stronger relationship between the two professionals.

Patient outcomes. Ultimately, one of the key components of physician-nurse conflict is its potentially negative effect on patient outcomes (Hewett et al., 2009;

Healthcare provider conflict (Rosenstein & O’Daniel, 2005) and a lack of communication caused by conflict (Hewett et al., 2009; Manojlovich & DeCicco, 2007) could negatively influence patient outcomes. The importance of effective physician-nurse communication was first presented by Stein (1968). In this commentary piece, the importance of effective communication skills by both nurses and physicians was highlighted to avoid potential conflict and potential negative effects on patient confidence and patient care.

Manojlovich and DeCicco (2007) found that effective communication between physicians and nurses in particular was suggested to decrease errors in patient treatment. The environment of the hospital appeared to play a large factor in the effectiveness of physician-communication. When physician-nurse communication was lacking, this was identified as a factor in medication errors. Medication errors could negatively impact patient outcomes. Thus, while other factors can effect patient outcomes, communication appears to be a key component.

This finding was supported by Hewett et al. (2009). While this study departed from the focus on nurse-physician communication and focused instead on communication between physicians, the importance of communication on patient outcomes was reinforced. In this study, 45 physicians from various departments were interviewed. Conflict between physicians was identified as a problem that had an effect on communication. Decreased levels of communication were then linked to less than desirable patient outcomes. Thus, conflict should be avoided or minimized as it could
lead to less communication problems between professionals and negative patient outcomes.

An imbalance of power may also have an effect on patient outcomes. Baggs et al. (1999) specifically examined the effects of nurse-physician collaboration on patient outcomes in an intensive care unit (ICU). The decision to transfer patients out of the ICU was examined. Nurse and physicians perceptions on the decision to transfer patients and the severity of the patient’s illnesses were recorded. The collaborations reported by nurses were significant in the positive effects on patient’s outcomes in the ICU. Physicians reported collaborations with nurses did not appear to have any effect on patient outcomes. Thus, nurses and physicians have a different perception of the roles they play and the power structure associated with those roles. This study supports the power imbalance that different professions may feel in any given situation. This difference in power may come from the environment in which they work.

The most significant study examining the presence of physician-nurse conflict and a possible relationship between conflict and outcomes was a study by Rosenstein and O’Daniel (2005). This study used the perceptions of nurses, physicians, and administrators to examine the effects of conflict on patient’s outcomes. A participant pool of 1,509 healthcare employees from the Voluntary Hospital Association (VHA) West Coast (a regional division of VHA, Inc.) were used in this study. A strong link between conflict and patient outcomes was discovered. Physicians were identified as a cause of conflict by 74% of all participants. Nurses reported a higher level of physician caused conflict (86%). Additionally, the presence of this conflict could have an impact on
patients. Rosenstein and O’Daniel (2005) reported that 94% of participants indicated that physician-nurse conflict could have a negative impact on patient outcomes. More specifically, 17% of the participants were sure a patient was negatively impacted by physician-nurse conflict, and 78% of these participants were sure the negative outcome could have been prevented. This means almost 1 out of 5 physicians or nurses believe that conflict has caused a negative patient outcome that more than likely could have been avoided. Participants went on to emphasize the possible negative effects of physician-nurse conflict: stress, frustration, decreased concentration, decreased collaboration, and decreased communication. All of these effects could inevitably lead to negative patient outcomes.

Physician-nurse conflict can lead to negative outcomes for the patient (Baggs et al., 1999; Hewett et al., 2009; Rosenstein & O’Daniel, 2005). The source of this conflict could be from professional norms and the working environment. The physician has historically been ranked higher than the nurse and dictated orders to them. This creates an environment where conflict is possible and likely as one group may not fully appreciate the other (Greenfield, 1999; Katzman & Roberts, 1988; Larson, 1999). This is similar to the athletic trainer-coach environment. Coaches are typically “in charge” of the athletic setting. They can dictate schedules and sometimes job placement of athletic trainers (Gieck, 1984; Wolverton, 2013). This alone can develop an environment where conflict is possible.

Physicians and nurses must collaborate together in the clinical setting in order to provide quality care to their patients. By collaborating, patient outcomes can be improved
(Baggs et al., 1999; Larson, 1999). Collaboration in the clinical setting could be linked to higher levels of nurse satisfaction and nursing self-esteem (Larson, 1999). Increases in these personal characteristics could have positive influences on patient care. If the work environment is healthy, patient needs are less likely to be neglected (Larson, 1999). As was demonstrated with athletic trainers, stress and burnout led to depersonalization and emotional exhaustion (Capel, 1986; Hendrix et al., 2000; Kania et al., 2009). Thus, there is the potential for negative outcomes for patients of athletic trainers if the athletic environment does not support collaboration and promotes burnout and stress.

The lack of collaboration in addition to the presence of conflict in the healthcare setting that may have a negative effect on patient outcomes (Hewett et al., 2009; Manojlovich & DeCicco, 2007; Stein, 1968; Watts et al., 1990). The structure of the healthcare setting allows for a social norm to exist where physicians are seen as superiors to nurses (Greenfield, 1999; Katzman & Roberts, 1988). This imbalance of power can promote conflict when there is a difference of opinion in patient care (Baggs et al., 1999; Fagin, 1992). Additionally, the pure nature of healthcare and the possibility of differences of opinions between healthcare providers on patient care exists and can lead to conflict (Baggs et al., 1999; Larson, 1999). These factors have been shown to lead to not only conflict but the potential for negative patient outcomes (Hewett et al., 2009; Manojlovich & DeCicco, 2007; Stein, 1968; Watts et al., 1990). Similar factors also exist in collegiate athletics.

Athletic trainers and coaches can have differing viewpoints on the need to return an athlete to play (Creighton et al., 2010; Wolverton, 2013). Sometimes the pressure of
winning and a coach’s job security can cause a coach to pressure an athlete back to play before they are ready (Abgarov et al., 2012; Podlog & Eklund, 2006). Additionally, athletic trainers have sometimes been under the supervision of athletic administrators or coaches for job performance evaluations (Wolverton, 2013). This can place the athletic trainer in the position of being a subordinate to the coach. This “role” may lead to expected behaviors and conflicts of interest when making decisions on when to return an athlete to play from an injury (Wolverton, 2013). This could lead to the same conflict nurses felt when dealing with physicians.

Once physician-nurse conflict does occur, undesirable patient outcomes can happen (Baggs et al., 1999; Hewett et al., 2009; Rosenstein & O’Daniel, 2005). If this is true for physicians and nurses, this may also be true for athletic trainers and coaches. While the setting is different, athletic trainers and coaches should be both working together to help the athlete recover from an injury. However, athletic trainer-coach conflict may have adverse effects on the athletic environment (Brumels & Beach, 2008; Goodman et al., 2010; Mazerolle et al., 2013; Wolverton, 2013). The presence of this conflict is important as this study aims to determine there is a relationship between this conflict and patient outcomes. In this study, the patient outcome being measured is the provision of social support.

**Athletic Trainer-Coach Conflict – Athletic Trainers’ Viewpoint**

The effects of Athletic Trainer-Coach conflict is not fully understood. However, the viewpoint of the athletic trainer on this topic has been explored. As with most workplaces, conflict is present in the work environment of athletic trainers (Capel, 1986;
Goodman et al., 2010; Hendrix et al., 2000; Kania et al., 2009; Mazerolle et al., 2013; Wolverton, 2013). The possible effects of this conflict are ultimately what is being explored in this study.

This presence of conflict in athletic training was first identified by Gieck (1984) and Capel (1986). As Gieck (1984) identified, the coach often has control over the team in the athletic setting. Coaches are able to create rules and may make demands on the athletic trainer for athletes to be ready to play and yet not provide any positive feedback when they are. It could be concluded that this environment could lead to conflict due to an imbalance of power. Gieck (1984) also identified coaches as a common source of athletic trainer-coach conflict and subsequent stress. The conflict and resulting stress could come from a lack of appreciation, a lack of support, or a difference of opinion on whether an athlete should play. This is important because stress can lead to burnout in athletic training (Capel, 1986). It is apparent that burnout, particularly in athletic training can lead to negative emotions and behaviors (Hendrix et al., 2000; Kania et al., 2009).

Capel (1986) was the first to explore the concept of burnout in athletic training. This was accomplished with a survey of 82 participants who had been previously employed as athletic trainers, but were no longer active members of the profession. Role conflict (conflict with coaches and others) was identified as the strongest predictor of the frequency and intensity of burnout in athletic trainers. Additionally, the presence of conflict in the workplace also predicted emotional exhaustion and depersonalization. Despite the lower levels of reported conflict in comparison to other helping professions,
the presence of conflict between athletic trainers and co-workers (including coaches) was identified as a major issue.

The relationship between conflict and burnout is important for athletic trainers. Conflict can be a cause of burnout for athletic trainers (Capel, 1986). The presence of burnout due to conflict could negatively affect the performance of an athletic trainer (Hendrix et al., 2000). Hendrix et al., (2000) surveyed 118 athletic trainers at NCAA Division I FBS universities to determine levels of stress and burnout. Stress was determined to predict emotional exhaustion and depersonalization in athletic trainers. These changes in behavior intuitively could influence how an athletic trainer would behave in their work environment.

Based on additional research by Kania et al. (2009), the idea that athletic trainer-coach conflict is a common source of stress and leads to negative side effects on the personality of athletic trainers was reinforced. In this study, 206 athletic trainers from NCAA Divisions I, II, and III were recruited through a college athletic trainer listserv. Results were compiled across all three divisions. This study examined the environmental and personal characteristics that could be predictive of burnout. Specific workplace environmental factors and personal characteristics of athletic trainers were examined in how they effected the depersonalization, emotional exhaustion, and feelings of personal accomplishment associated with burnout in athletic trainers. Two characteristics were consistent in affecting all three factors of burnout: stress level and pressure from a coach to return an athlete to play before being medically cleared. As both stress and athletic trainer-coach conflict were identified as the main causes of burnout for the athletic
trainer, the importance of understanding the effects of athletic trainer-coach conflict is reinforced.

The effects of conflict are not only stress and emotional changes. An athletic trainer’s job status and satisfaction can also be influenced by athletic trainer-coach conflict (Goodman et al., 2010; Mazerolle et al., 2013; Wolverton, 2013). Goodman et al. (2010) and Mazerolle et al. (2013) collected qualitative data on the presence of conflict between athletic trainers and coaches. From this data the effects of athletic trainer-coach conflict on both athletic trainers and possibly on athletes is discussed. Goodman et al. (2010) interviewed 23 female athletic trainers who currently \( n = 12 \) or formerly \( n = 11 \) were employed in the NCAA Division I FBS setting to discuss retention and attrition factors for female athletic trainers. The second most common reason for leaving their position was athletic trainer-coach conflict. Athletic trainers reported pressure from the coaches to return athletes to play quickly to maintain a positive working environment. Additionally, coaches injected their opinion in a manner that seemed directive rather than suggestive.

Mazerolle et al. (2013) also found conflict to be one of the main reasons for athletic trainers to leave the profession. Eight male athletic trainers at NCAA Division I institutions were interviewed. The participants had an average of 15 years of experience at the NCAA Division I level. The conflict from coaches came from a pressure to help the team win or the coach injecting their opinion when it was not needed. These were the major sources of conflict for athletic trainers and reasons they ultimately left their position.
The effect of conflict on stress, job satisfaction, and career longevity for athletic trainers in collegiate settings was also supported by studies by Brumels and Beach (2008), Capel (1990), and Pitney et al. (2002). Brumels and Beach (2008) surveyed 348 collegiate athletic trainers from all levels. The presence of role incongruity was a source of stress, leading to decreased job satisfaction, and ultimately, a reason to leave the position. Role incongruity occurs when work requirements, personal skills, or personal valuables are contrary to each other. This potential inability for an employee’s responsibilities, abilities, capabilities, or preferences to not align properly with the employers can cause stress (Brumels & Beach, 2008). This suggests athletic trainer-coach conflict could be a source of role incongruity, and a reason athletic trainers have stress or job dissatisfaction.

Pitney (2006) examined the influences of quality of life issues with 14 NCAA Division I athletic trainers. In this group of participants, 12 were currently employed at the NCAA Division I level. Two participants had been previously employed as NCAA Division I head athletic trainers, but were currently employed as athletic directors. Athletic trainer-coach conflict was identified as one of the main issues that affected the socialization of the athletic trainer in the collegiate setting. The athletic trainers reported the coach being more concerned with wins rather than the health of their athletes. This was a source of conflict to the athletic trainers that prioritized the individual’s health over the team’s success. (Pitney, 2006). Additionally, Capel (1990) surveyed 82 former athletic trainers about their previous position, reasons for leaving, and future outlook on returning to the profession of athletic training. Athletic Trainer-coach conflict was cited
as the second most common reason for leaving the profession, second to the long
working hours. Additionally, the potential for conflict in another position was cited
among the top seven reasons for not likely accepting or applying for a future athletic
training position.

Wolverton (2013) reported the presence of conflict in the workplace for athletic
trainers with a sample of National Collegiate Athletic Association (NCAA) Division I
Football Bowl Series (FBS) athletic trainers. Of the 101 athletic trainers, 53% reported
feeling pressure from coaches to return an athlete to play sooner than medically
recommended. Additionally, 42% of the athletic trainers reported a coach pressuring the
athletic trainer to return an athlete diagnosed with a concussion to play sooner than
medically recommended. At the NCAA FBS level, an immense amount of pressure is
placed upon teams to win. This pressure is felt by coaches and athletic trainers. This
pressure often times leads to conflict between coaches and athletic trainers when a player
cannot return to play as quickly as desired. In fact, six athletic trainers reported they lost
their job following a conflict with a coach about the medical treatment of an athlete
(Wolverton, 2013).

There is evidence demonstrating the effects and source of conflict for athletic
trainers in the collegiate setting (Capel, 1990; Pitney, 2006; Wolverton, 2013). The same
cannot be said for collegiate coaches or coaches in general. Very little evidence exists
examining the coach’s viewpoint on athletic trainer-coach conflict at any level. What
evidence does exists is contradictory (Podlog & Dionigi, 2010; Podlog & Eklund, 2007).
Athletic Trainer-Coach Conflict – Coaches’ viewpoint

Two articles (Podlog & Dionigi, 2010, Podlog & Eklund, 2007) provide the coach’s viewpoint on athletic trainer-coach conflict. These two articles provide two opposite views on the potential for conflict. Podlog and Eklund (2007) interviewed Australian coaches from team and individual sports on their experience with returning athletes to play following an injury. The coaches indicated having issues with trusting the judgments of healthcare professionals making decisions. If the healthcare provider had athletic participation in their background, this was viewed as positive. The potential for conflict arose from the fear that healthcare professionals were being too conservative, erring on the side of caution, and a fear of being sued. The coaches did admit to making potential errors in placing pressure on the athlete to return to play too soon (e.g., a potential area of conflict). Podlog and Eklund (2007) identified the lack of research on the interactions between coaches and therapists. They indicated that maximizing this relationship is imperative when returning an athlete to play.

However, Podlog and Dionigi (2010) provided a different viewpoint from another group of Australian coaches. In interviews with this cohort of coaches, they identified the healthcare provider as the expert and indicated coaches should not interfere with the return to play decision. However, the coaches felt they should be at least included in the return to play conversation and decision making process. A ‘team approach’ should be used in treating the athlete. Communication was identified as key during the rehabilitation process, and athletes were identified as the usual culprit of pushing to return to play too soon.
Athletic trainer-coach conflict appears to be a common occurrence from the athletic trainer’s viewpoint (Mazerolle et al., 2013; Pitney, 2006; Wolverton, 2013). The conflict has the potential to negatively effect athletic trainers and potentially effect job performance (Brumels & Beach, 2008; Kania et al., 2009). Understanding external factors that may influence the presence of athletic trainer-coach conflict is important to understanding why conflict occurs. One could expect the collegiate setting to possibly influence the level of athletic trainer-coach conflict. Higher levels of collegiate competition intuitively could bring about increased pressure and conflict. However, this may not be an accurate assumption (Brumels & Beach, 2008; Kania et al., 2009).

Athletic Trainer-Coach Conflict and Different NCAA levels

The NCAA Division I, II, and III levels have different philosophies. All three levels are focused on providing a quality experience for their student athletes (NCAA, n.d.a, n.d.b, n.d.c). The Division I level offers the largest scholarships and have the largest budgets (NCAA, n.d.a), whereas NCAA Division II schools continue to offer athletic scholarships for sport participation. However, at the NCAA Division II level a greater emphasis is also placed on the classwork, community service, and additional extracurricular activities (NCAA, n.d.b). The primary focus of the NCAA Division III level is the classroom. Athletes do not receive athletic scholarships. The NCAA even identifies the lower time commitment Division III sports have in order to allow for the academic focus to remain high in their philosophy statement (NCAA, n.d.c).

With these different philosophies, one could expect different levels emphasis on athletics. Particularly in Division I athletics, where an emphasis is placed on winning.
With an emphasis on economics and winning, this could influence the decision on when an athlete should return to play. This could also influence the presence of athletic trainer-coach conflict. However, athletic trainer-coach conflict appears to be present across all three NCAA Divisions (Brumels & Beach, 2008; Goodman et al., 2010; Kania et al., 2009). Coaches are dependent upon athletes to perform well in competitions. These performances help determine win-loss records and can determine the job security a coach may have, regardless of the NCAA level (Clement & Shannon, 2011).

Athletic trainer-coach conflict has been reported on most frequently at the NCAA Division I level (Goodman et al., 2010; Kania et al., 2009; Wolverton, 2013). However, two studies suggest athletic trainer-coach conflict exists at the NCAA Division II and III levels. Brumels and Beach (2008) and Kania et al. (2009) assessed athletic trainers from NCAA Division I-III schools on perceptions of conflict. Neither study compared between differences between the NCAA divisions. However, results of these studies were consistent with other studies of only NCAA Division I athletic trainers. Thus, the frequent occurrence of athletic trainer-coach conflict at the NCAA Division II and III levels is possible as well.

**Conclusion**

Following a review of the literature these are the important conclusions that can be reached that are pertinent to this study. Conflict appears to have negative outcomes on the participants involved (Frone, 2000; Jehn, 1995). The negative effects of conflict have been studied in the normal working environment. While conflict can have some positive benefits in the work environment, the consequences of conflict are mostly negative (Jehn,
1995). These negative effects of conflict in the work environment appear to carry over to the healthcare profession. Conflict between healthcare professionals has been demonstrated to have negative effects on third parties (Baggs et al., 1999; Hewett et al., 2009; Rosenstein & O’Daniel, 2005). Likewise third parties, such as athletes, can be effected by parent-coach conflict as well (Jowett & Cramer, 2010; Jowett & Timson-Katchis, 2005; Tamminen & Holt, 2012). The importance of third party effects of conflict is of utmost importance to this study. Athletic trainer-coach conflict is commonly reported by athletic trainers in the collegiate setting (Capel, 1990; Kania et al., 2009; Pitney, 2006). Thus, if parent-coach and healthcare professional conflict can impact third parties, athletic trainer-coach conflict could also effect third parties such as athletes.

These third party effects of conflict are important as they may effect how well athletes are able to recover from an injury. Following an injury, athletes need and want social support (Brewer, 1998; Gould et al., 1997; Wiese-Bjornstal et al., 1995). In particular, collegiate athletes will seek out the support of coaches and athletic trainers (Yang et al., 2010). This support will aide an injured athlete in making a positive cognitive evaluation of an injury. This cognitive evaluation will determine how the injured athlete will respond both cognitively and emotionally (Tracey, 2003; Wiese-Bjornstal et al., 1995; Wiese-Bjornstal et al., 1998). These behaviors and emotions can play a role in determining how well and how quickly an injured athlete will recover (Brewer, 1998; Duda et al., 1989).

These conclusions raise the question about the effects of athletic trainer-coach conflict on social support provided to athletes following an injury to a collegiate athlete.
A third party, such as a collegiate athlete, could possibly be negatively affected by the presence of athletic trainer-coach conflict. If athletes do not perceive the necessary social support from athletic trainers and coaches because of conflict, this could have an impact on the athlete. This impact could be in the form of diminished rehabilitation adherence. This impact could come in the form of other negative emotional or behavioral responses that have not yet been fully studied. Therefore the purpose of this study was to determine if a relationship is present between athletic trainer-coach conflict and injured collegiate athletes perceptions of social support and factors that may influence such a relationship.
CHAPTER 3

METHODS

This study was conducted to describe injured collegiate athletes’ perceptions of social support and athletic trainer-coach conflict. More specifically, the study examined the potential relationship between perceived social support and athletic trainer-coach conflict, and if these relationships differed by the athlete’s status, level of competition, or sport.

Participants

NCAA athletes \((N = 246)\) were recruited from five colleges and universities in a Midwestern state to participate in this study. These institutions included two NCAA Division I universities, one NCAA Division II university, and two NCAA Division III colleges. An initial invitation to participate in the study was sent to 2,301 athletes at the five institutions, with 512 responding and providing consent to participate. This resulted in a participation rate of 23.3%. To be included in this study, a student-athlete had to have suffered an injury in the past year that resulted in them missing practice and/or competitions for at least one week. Of those athletes who gave consent to participate in the study, 246 were included based on this criteria.

Participants came from NCAA Division I \((n = 95)\), NCAA Division II \((n = 35)\), and NCAA Division III \((n = 100)\) institutions. Participants were mostly involved in football \((n = 44)\), track and field \((n = 35)\), and soccer \((n = 28)\) when their injuries occurred. Table 1 provides a list of the sports included in the study. Additionally, participants identified their status on the team as either starters \((n = 108)\),
non-starters \((n = 92)\), or medical redshirts \((n = 30)\). Of those participating in this study, 44% were male and 56% were female, and predominantly identified themselves as Caucasian \((91.3\%)\). The remaining participants described themselves as African American \((3.9\%)\), Hispanic \((2.2\%)\), or other \((2.6\%)\), which included European and Bi-Racial.

Measures

Social Support Measures

The Social Support Inventory \((SSI; \text{see Table 2})\) was used in this study \((Brown \text{ et al., 1987; Brown, Alpert, Lent, Hunt, & Brady, 1988})\). The original inventory included 39 questions with five subscales. Only 20 questions were used in the current study.

Table 1

<table>
<thead>
<tr>
<th>Sport</th>
<th>(n)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>14</td>
<td>6.2%</td>
</tr>
<tr>
<td>Basketball</td>
<td>19</td>
<td>8.4%</td>
</tr>
<tr>
<td>Cross Country</td>
<td>10</td>
<td>4.4%</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Football</td>
<td>44</td>
<td>19.4%</td>
</tr>
<tr>
<td>Golf</td>
<td>4</td>
<td>1.8%</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>9</td>
<td>4.0%</td>
</tr>
<tr>
<td>Lacrosse</td>
<td>6</td>
<td>2.6%</td>
</tr>
<tr>
<td>Rowing</td>
<td>7</td>
<td>3.1%</td>
</tr>
<tr>
<td>Soccer</td>
<td>28</td>
<td>12.3%</td>
</tr>
<tr>
<td>Swimming</td>
<td>7</td>
<td>3.1%</td>
</tr>
<tr>
<td>Tennis</td>
<td>7</td>
<td>3.1%</td>
</tr>
<tr>
<td>Track &amp; Field</td>
<td>35</td>
<td>15.4%</td>
</tr>
<tr>
<td>Volleyball</td>
<td>20</td>
<td>8.8%</td>
</tr>
<tr>
<td>Wrestling</td>
<td>15</td>
<td>6.6%</td>
</tr>
</tbody>
</table>
Table 2

Social Support Items

**Acceptance and Belonging**
1. Knowledge that your athletic trainer/coach are willing to talk about your injury
2. Assurance from athletic trainer/coach that still needed as a part of the team
3. Assurance that athletic trainer/coach respect you.
4. Know athletic trainer/coach are willing to talk when you are down
5. Know that athletic trainer/coach are willing to talk about insecurities caused by injury
6. Assurance from athletic trainer/coach that despite injury you were still accepted

**Appraisal and Coping Assistance**
7. Reassurance from athletic trainer/coach that it is normal to feel down following an injury
8. Help from athletic trainer/coach to see optimism in future following injury
9. Help from athletic trainer/coach to set realistic goals during rehabilitation from injury
10. Reassurance from athletic trainer/coach that fears after an injury are normal
11. Information from athletic trainer/coach on how to cope with injury
12. Information from athletic trainer/coach on services to help with injury

**Behavioral and Cognitive Guidance**
13. Information from athletic trainer/coach to change behavior that would negatively effect injury
14. Encouragement from athletic trainer/coach to face reality of injury
15. Encouragement from athletic trainer/coach to talk when down
16. Encouragement from athletic trainer/coach to talk about insecurities

**Modeling**
17. Information from athletic trainers/coach on how injuries made other injured athletes feel
18. Information from athletic trainers/coach on how other athletes dealt with injuries.
19. Information from athletic trainers/coach on how other injured athletes think
20. Athletic trainer/coach provided a model/example athlete to follow during rehabilitation
Questions from one original subscale, “Tangible Assistance and Material Aid” were omitted. The questions in this subscale ask about financial assistance and tangible aid which are not allowed to be provided to NCAA athletes by coaches or athletic trainers. Other excluded questions dealt with “acts of love.” These questions might have been beyond the normal relationship an athlete would likely have with a coach or athletic trainer. Therefore, the decision was made to remove these items from the questionnaire.

The participants in the study completed 20 items designed to assess level of satisfaction with the social support received from coaches, and another 20 items assessing satisfaction with social support received from athletic trainers following an injury. A 7-point Likert scale was used to determine the level of social support the athlete received from coaches and athletic trainers following an injury for each question. The scale ranged from 1 “none” to 7 “a lot.” Four different subscales were calculated for both athletic trainers and coaches: acceptance and belonging, appraisal and coping assistance, behavioral and cognitive guidance, and modeling. The SSI has demonstrated strong reliability and validity with similar samples, with overall alpha coefficients ranging from .79 to .91 (e.g., Brown et al., 1988).

Conflict Measures

Conflict was assessed with the Intragroup Conflict Scale (ICS; Jehn, 1995; Pearson, Ensley, & Amason, 2002). An initial scale of 11 questions was developed by Jehn (1995) and revised to six questions by Pearson et al. (2002). In this survey of intragroup conflict, two subscales with three questions each were utilized to determine
the presence of relationship and task conflict (see Table 3). A 5-point Likert scale was used for the athletes to rate the level of athletic trainer-coach conflict the athlete perceived following their injury. The Likert scale ranged from 1 “none” to 5 “a lot.” A separate mean score was calculated for relationship and task conflict. The ICS has demonstrated strong reliability scores in past research with alpha coefficients of .92 and .85 for relationship conflict (Jehn, 1995; Pearson et al., 2002), and .87 and .79 for task conflict (Jehn, 1995; Pearson et al., 2002).

Table 3

**Athletic Trainer-Coach Conflict Items**

<table>
<thead>
<tr>
<th>Relationship Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How much anger was there between your athletic trainer and coach over the care of your injury?</td>
</tr>
<tr>
<td>2. How much personal friction was there between your athletic trainer and coach during decisions made about your injury?</td>
</tr>
<tr>
<td>3. How much tension was there between your athletic trainer and coach during decisions made about your injury?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. How many disagreements over different ideas about your injury were there between your athletic trainer and coach?</td>
</tr>
<tr>
<td>5. How many differences about the care of your injury did your athletic trainer and coach have to work through?</td>
</tr>
<tr>
<td>6. How many differences of opinion about your injury were there between your athletic trainer and coach?</td>
</tr>
</tbody>
</table>

**Demographics**

Several demographic questions were included in the survey: length of time missed due to the injury, scholarship status, the season in which the injury occurred (pre, post or
off-season) sport, athlete’s role on the team, year of eligibility, level of competition, scholarship status, and athlete’s gender and race.

**Procedures**

Athletic departments at the University of Northern Iowa, University of Iowa, Upper Iowa University, Central College, and Loras College were contacted about participating in this study. A signed letter of cooperation was provided by the Athletic Director or Assistant Athletic Director from each institution. Following the University of Northern Iowa Institutional Review Board (IRB) approval, IRB approval was also sought at each external institution. All of these institutions, except Upper Iowa University, indicated that approval by the University of Northern Iowa IRB was a sufficient review of the study to protect study participants. To gain approval by the IRB at Upper Iowa University, a Human Subjects Application was sent, along with a letter of approval by the University of Northern Iowa IRB, to the IRB at Upper Iowa University. These documents were reviewed and IRB approval was granted at Upper Iowa University.

After full IRB approval was received, a listserv was directly or indirectly provided by the Athletic Departments at the University of Northern Iowa, University of Iowa, Upper Iowa University, Central College, and Loras College to recruit athletes at each institution to participate in this study. An electronic correspondence was sent via electronic mail to all athletes at each institution in March 2015 (see Appendix B). This initial email included the purpose of the study and invited athletes to participate by clicking on a link that was included in the email that connected athletes to the Qualtrics based survey (see
Appendix C). The use of an online Qualtrics survey ensured anonymity of all participants and allowed for a large number of participants to be reached.

The first page of the survey included an informed consent form and an initial question. The initial question asked the athlete, “Have you had an injury in the past year that kept you from participating in your sport for at least one week?” If a participant answered this question “no,” the athlete was thanked for their willingness to participate, but were not provided any additional questions. If a participant answered “yes,” the athlete was then provided with additional questions.

Follow-up emails (see Appendix B) were sent one, two, four, and six weeks later for four of the institutions. Due to a communication delay, only an initial email and two follow-up emails were sent to one of the NCAA Division III institutions. These emails reminded athletes of the invitation to participate, the overall purpose, and the importance of the study. The survey was closed at the end of the spring semester at each campus.

**Design and Data Analysis**

After data was collected, scale reliabilities and descriptive statistics were calculated. The research map (see Figure 2) displays all statistical analyses conducted. Upon completion of these calculations, data was analyzed to answer each research question. A correlational design and Multivariate Analyses of Variance (MANOVAs) were used to answer the research questions. The specific research questions of this study included:
### Overall Research Question

**Relationship between Athletic Trainer-Coach Conflict on Social Support for Injured Athletes**

### Instruments

**Social Support Inventory, Conflict Inventory, Demographics**

### Data Collection: Qualtrics

<table>
<thead>
<tr>
<th>Division I Institutions</th>
<th>Division II Institution</th>
<th>Division III Institutions</th>
</tr>
</thead>
</table>

### Descriptive Analysis

**Mean levels of Athletic Trainer-Coach Conflict will be reported**

### Correlations

**Relationships between levels of Athletic Trainer-Coach conflict and levels of social support**

### Multivariate Analyses of Variance

**Differences in the level of perceived social support and conflict by type of sport, status on team, and level of competition**

*Figure 2. Research map*

### Purpose 1

- a. How much conflict between the athletic trainer and coach did collegiate athletes perceive? Data collected from the ICS (Jehn, 1995; Pearson et al., 2002) was used and analyzed through a description of the mean score.

- b. Are perceptions of athletic trainer-coach conflict related to the levels of perceived social support from athletic trainers? A Pearson’s correlation was
used to determine if a relationship is present between the level of perceived athletic trainer-coach conflict present and the social support from the athletic trainer that is reported following an injury. It was hypothesized that a negative relationship would exist between the level of athletic trainer-coach conflict and perceived social support from athletic trainers.

c. Are perceptions of athletic trainer-coach conflict related to the levels of perceived social support from coaches? A Pearson’s correlation was used to determine if a relationship is present between the level of perceived conflict and social support from the coach reported by the injured athletes. It was hypothesized that a negative relationship would exist between the level of athletic trainer-coach conflict and perceived social support from coaches.

**Purpose 2**

d. Do differences exist on perceived athletic trainer-coach conflict for athletes of varying playing status (starter or non-starter) at different levels of competition (NCAA Division I or II/III)? This question was answered through the use of a 2 x 2 MANOVA. The conflict scores on two subscales (task and relationship conflict) from two groups of status level and two groups of level of competition were compared for significant differences. It was hypothesized that levels of perceived athletic trainer-coach conflict would be significantly higher ($p < .05$) for starters compared to non-starters at the NCAA Division I level.
e. Do differences exist on perceived social support from athletic trainers for injured athletes of varying playing status (starter or non-starter) at different levels of competition (Division I or II/III)? This question was answered through the use of a 2 x 2 MANOVA. The social support scores on four subscales (acceptance and belonging, appraisal and coping assistance, behavioral and cognitive guidance, and modeling) from two groups of status level and two groups of level of competition were compared for significant differences. No hypothesis was put forward for potential differences between athletes of varying levels of competition on injured athletes’ perceptions of social support from their athletic trainer due to a lack of consistency or related findings in the literature.

f. Do differences exist on perceived social support from coaches for injured athletes of varying playing status (starter or non-starter) at different levels of competition (Division I or II/III)? This question was answered through the use of a 2 x 2 MANOVA. The social support scores on four subscales (acceptance and belonging, appraisal and coping assistance, behavioral and cognitive guidance, and modeling) from two groups of status level and two groups of level of competition were compared for significant differences. No hypothesis was put forward for potential differences between athletes of varying levels of competition on injured athletes’ perceptions of social support from their coach due to a lack of consistency or related findings in the literature.
Purpose 3

g. Do differences exist on level of perceived athletic trainer-coach conflict for athletes playing revenue vs. non-revenue sports? A MANOVA was conducted to compare revenue sport athletes to non-revenue sport athletes on athletic trainer-coach conflict. The type of sport was the independent variable and the two conflict subscales, relationship and task, were the dependent variables. A comparison of the means allowed for the determination of which group was significantly higher on each type of conflict following significant results on the MANOVA. No hypothesis was put forward for potential differences between revenue and non-revenue sport athletes’ perceptions of athletic trainer-coach conflict due to a lack of consistency or related findings in the literature.

h. Do differences exist on the level of perceived social support from the athletic trainer for athletes playing revenue vs. non-revenue sports? A MANOVA was conducted to compare revenue sport athletes to non-revenue sport athletes on perceived levels of social support from their athletic trainer. Type of sport was the independent variable and the four social support subscales, acceptance and belonging, appraisal and coping assistance, behavioral and cognitive guidance, and modeling, were the dependent variables. A comparison of the means allowed for the determination of which group was significantly higher on each type of social support from the athletic trainer for significant MANOVA results. No hypothesis was put forward for potential differences
between revenue and non-revenue sport athletes’ perceptions of social support from their athletic trainer due to a lack of consistency or related findings in the literature.

i. Do differences exist on the level of perceived social support from the coach for athletes playing revenue vs. non-revenue sports? A MANOVA was conducted to compare revenue sport athletes to non-revenue sport athletes on perceived levels of social support from their athletic trainer. Type of sport was the independent variable and the four social support subscales, acceptance and belonging, appraisal and coping assistance, behavioral and cognitive guidance, and modeling, were the dependent variables. A comparison of the means allowed for the determination of which group was significantly higher on each type of social support from the coach for significant MANOVA results. No hypothesis was put forward for differences between revenue and non-revenue sport athletes’ perceptions of social support from their coach due to a lack of consistency or related findings in the literature.
CHAPTER 4

RESULTS

Reliabilities

Alpha coefficients were calculated to determine reliabilities of the social support and conflict scales used in the survey. All reliabilities were strong. Alpha levels ranged from .91 to .95 for social support subscales, .86 for task conflict, and .91 for relationship conflict. Alpha coefficients for the social support scales (acceptance and belonging, appraisal and coping behavioral, and cognitive, and modeling), for both the athletic trainer and coach, and conflict scales (task and relationship conflict) can be seen along the diagonal of Table 4.

Purpose 1

The first purpose of this study was to describe collegiate athletes’ perceptions of athletic trainer-coach conflict following an injury that caused the athlete to miss at least one week of practice and/or games. Additionally, the relationship between perceived social support and athletic trainer-coach conflict was investigated. Table 4 includes the means, standard deviations, and correlations for all variables in this study.

Athletes perceived relatively high levels of social support from both athletic trainers and coaches. In particular, athletes perceived high levels of acceptance and belonging ($M = 5.80, SD = 1.33$), appraisal and coping ($M = 5.41, SD = 1.48$), and behavioral and cognitive social support ($M = 5.00, SD = 1.67$) from their athletic trainers. Additionally, coaches were reported as having provided high levels of acceptance and belonging social support ($M = 5.28, SD = 1.70$). In a few areas, more moderate levels
Table 4

Correlations, Descriptive Statistics, and Alpha Coefficients for All Constructs

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acceptance &amp; Belonging SS - AT</td>
<td>.92</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2. Acceptance &amp; Belonging SS- Coach</td>
<td>.35*</td>
<td>.95</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3. Appraisal &amp; Coping SS - AT</td>
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<td>.32*</td>
<td>.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Appraisal &amp; Coping SS - Coach</td>
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<td>.85*</td>
<td>.46*</td>
<td>.95</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5. Behavioral &amp; Cognitive SS - AT</td>
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<td>.33*</td>
<td>.83*</td>
<td>.43*</td>
<td>.87</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. Behavioral &amp; Cognitive SS - Coach</td>
<td>.32*</td>
<td>.80*</td>
<td>.40*</td>
<td>.91*</td>
<td>.53*</td>
<td>.93</td>
<td></td>
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</tr>
<tr>
<td>7. Modeling SS- AT</td>
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<td>.32*</td>
<td>.74*</td>
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<td>.75*</td>
<td>.46*</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8. Modeling SS - Coach</td>
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<td>.68*</td>
<td>.41*</td>
<td>.79*</td>
<td>.44*</td>
<td>.78*</td>
<td>.66*</td>
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<td>9. Task Conflict</td>
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<td>-.21*</td>
<td>-.12</td>
<td>-.19*</td>
<td>-.04</td>
<td>-.12</td>
<td>-.08</td>
<td>-.10</td>
<td>.86</td>
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</tr>
<tr>
<td>10. Relationship Conflict</td>
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<td>-.26</td>
<td>-.11</td>
<td>-.26</td>
<td>-.04</td>
<td>-.16*</td>
<td>-.08</td>
<td>-.15*</td>
<td>.91*</td>
<td>.91</td>
</tr>
</tbody>
</table>

\[ M \begin{array}{cccccccccc} 
5.80 & 5.28 & 5.41 & 4.55 & 5.00 & 4.45 & 4.20 & 3.72 & 1.67 & 1.62 \\
SD \end{array}
\]

Notes. Alpha coefficients are presented along the diagonal.
* indicates significant correlations, \( p < .05 \); SS = Social Support, AT = Athletic Trainer
of social support was perceived. In particular, levels of modeling support
\((M = 4.92, SD = 1.92)\) from athletic trainers and appraisal and coping
\((M = 4.45, SD = 1.92)\), behavioral and cognitive \((M = 4.45, SD = 1.92)\), and modeling
social support from coaches \((M = 3.72, SD = 1.99)\) were reported at more moderate
levels. Unexpectedly, athletic trainer-coach conflict was not perceived at high levels by
injured athletes. Both relationship \((M = 1.62, SD = .88)\) and task \((M = 1.67, SD = .89)\)
conflict were reported as occurring infrequently following athletes’ injuries.

Correlations were conducted to examine the relationship between athletic trainer-
coach conflict and perceptions of social support from the athletic trainer and coach.
Overall, only weak relationships were found between perceptions of social support
provided by athletic trainers and the presence of athletic trainer-coach conflict. No
significant relationships emerged between task and relationship conflict and any type of
social support from the athletic trainer. For the coach, four significant relationships did
emerge between task and relationship conflict and perceptions of social support. Athletes’
perceptions of coaches providing acceptance and belonging support \((r = -.21)\) and
appraisal and coping support \((r = -.19)\) were weakly and negatively related to the
presence of task conflict. Athletes’ perceptions of coaches providing behavioral and
cognitive support \((r = -.16)\) and modeling support \((r = -.15)\) were also weakly and
negatively related to the presence of relationship conflict. Not surprisingly, all significant
correlations between athletic trainer-coach conflict and coach social support were
negative. Thus, as the presence of relationship conflict increased, the perception of
behavioral and cognitive social support and modeling social support from the coach
decreased. Similarly, as the presence of task conflict increased, the presence of
acceptance and belonging and appraisal and coping support decreased.

Purpose 2

The second purpose of this study was to explore differences in the perceptions of
athletic trainer-coach conflict based upon the playing status (starter or non-starter) of the
athlete at different levels of competition (NCAA Division I, or II/III). Additionally,
differences in the perceptions of social support from both athletic trainers and coaches
were investigated based upon the athletes playing status (starter or non-starter) and level
of competition (NCAA Division I or II/III).

Post-hoc decisions were made to re-group the subjects into two groups based on
playing status and level of competition. A low number of participants identified
themselves as medical redshirts ($n = 30$), and were not playing regularly in games, thus,
the decision was made to group these players with other players who did not play
regularly, non-starters ($n = 92$). The total number of athletes in the group was 122.
Additionally, few participants identified themselves as competing at the NCAA Division
II level ($n = 35$). These participants were regrouped with the athletes from the NCAA
Division III level ($n = 100$). Thus, creating a group size of 135 representing both NCAA
Division II and III athletes. Decisions were based upon the mission statements of both the
NCAA Division II and III levels. Both of these levels stress the educational mission of
the institution, athletic participation is secondary (NCAA, n.d.b.; n.d.c). In contrast, the
NCAA Division I mission statement places greater emphasis on athletic participation (NCAA, n.d.a.).

The first question in the second purpose of this study was to investigate whether differences in perceived athletic trainer-coach conflict existed based upon playing status or level of competition. In order to assess if there was an athlete status by level of competition interaction for both task and relationship conflict from the participants, two separate 2 x 2 MANOVAs were conducted. In the first analysis, starters and non-starters across the levels of competition were compared on perceptions of athletic trainer-coach task conflict. The 2 X 2 MANOVA was not significant for playing status ($F(1, 225) = .12, p = .73$), level of competition ($F(1, 225) = .17, p = .68$), nor for a status by level of competition interaction ($F(1, 225) = .026, p = .87$). Thus, athletes with a different playing status at different levels of competition did not differ in their perceptions of athletic trainer-coach task conflict.

The second analysis then compared athletes with different playing status and from different levels of competition on their perceptions of athletic trainer-coach relationship conflict. The 2 X 2 MANOVA was not significant for a status effect ($F(1, 225) = .07, p = .79$), level of competition ($F(1, 225) = .31, p = .58$), nor for a status by level of competition interaction ($F(1, 225) = .06, p = .81$). Thus, athletes with a different playing status from different levels of competition did not differ in their perceptions of athletic trainer-coach task conflict. Therefore, the null hypothesis must be accepted. There was no difference in the perceptions of athletic trainer-coach conflict by either the athlete’s status or level of competition. Table 5 displays the means and
Table 5

Means and Standard Deviations for All Constructs by Status and Level

<table>
<thead>
<tr>
<th>Variables</th>
<th>Division I Starters (n = 42)</th>
<th>Division I Non-Starters (n = 52)</th>
<th>Division II/III Starters (n = 65)</th>
<th>Division II/III Non-Starters (n = 69)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td><strong>Athletic Trainer Social Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance &amp; Belonging</td>
<td>5.99</td>
<td>1.13</td>
<td>5.93</td>
<td>1.32</td>
</tr>
<tr>
<td>Appraisal &amp; Coping</td>
<td>5.55</td>
<td>1.24</td>
<td>5.52</td>
<td>1.55</td>
</tr>
<tr>
<td>Behavioral &amp; Cognitive</td>
<td>5.06</td>
<td>1.62</td>
<td>5.18</td>
<td>1.75</td>
</tr>
<tr>
<td>Modeling</td>
<td>4.19</td>
<td>1.84</td>
<td>4.57</td>
<td>1.99</td>
</tr>
<tr>
<td><strong>Coach Social Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance &amp; Belonging</td>
<td>5.32</td>
<td>1.60</td>
<td>4.73</td>
<td>2.02</td>
</tr>
<tr>
<td>Appraisal &amp; Coping</td>
<td>4.77</td>
<td>1.89</td>
<td>4.14</td>
<td>2.19</td>
</tr>
<tr>
<td>Behavioral &amp; Cognitive</td>
<td>4.42</td>
<td>2.00</td>
<td>4.02</td>
<td>2.31</td>
</tr>
<tr>
<td>Modeling</td>
<td>3.62</td>
<td>1.98</td>
<td>3.71</td>
<td>2.29</td>
</tr>
<tr>
<td><strong>Conflict</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task Conflict</td>
<td>1.65</td>
<td>.89</td>
<td>1.71</td>
<td>.96</td>
</tr>
<tr>
<td>Relationship Conflict</td>
<td>1.67</td>
<td>.80</td>
<td>1.61</td>
<td>.97</td>
</tr>
</tbody>
</table>
standard deviations for each study variable by group. The second part of purpose two was to examine if differences in perceived social support from either athletic trainers or coaches existed for either playing status or level of competition. In order to assess these differences by playing status and level of competition for perceived social support from both the athletic trainer and the head coach, two separate 2 X 2 MANOVAs were conducted. In the first analysis, starters and non-starters from different levels of competition were compared across the perceived levels of social support provided by their athletic trainer. The 2 X 2 MANOVA was not significant for status (Wilks’ $\lambda = .98$, $F (4, 221) = 1.01$, $p = .40$), level of competition (Wilks’ $\lambda = .98$, $F (4, 221) = .95$, $p = .44$) nor for a status by level of competition interaction (Wilks’ $\lambda = .99$, $F (4, 221) = .37$, $p = .83$). Thus, injured collegiate athletes that had a different status on the team and played at different levels of competition did not differ in their perceptions of social support from their athletic trainer.

In the second analysis, starters and non-starters from different levels of competition were compared across the perceived levels of social support provided by the head coach. The 2 X 2 MANOVA was significant for a status effect (Wilks’ $\lambda = .95$, $F (4, 221) = 2.75$, $p < .05$), and level of competition (Wilks’ $\lambda = .96$, $F (4, 221) = 2.54$, $p < .05$). However, there was not a significant status by level of competition interaction: Wilks’ $\lambda = .99$, $F (4, 221) = .50$, $p = .74$. With regards to differences based on status, none of the types of social support from the head coach emerged as significant. However, both coach scales representing acceptance and
belonging and appraisal and coping support approached significance, \( p = .08, p = .07 \), respectively. With regards to differences based upon level of competition, athletes participating at the NCAA Division II and III levels reported significantly higher perceptions of acceptance and belonging social support \((p < .05)\) from their coach than did athletes competing at the Division I level.

**Purpose 3**

The third purpose of this study was to explore differences in the perceptions of athletic trainer-coach conflict based upon whether the sport was considered revenue or non-revenue. Additionally, differences in the perceptions of social support from both athletic trainers and coaches were investigated based upon revenue versus non-revenue status. Revenue sports included football, basketball, and wrestling based upon the location of the schools from which participants were recruited. Non-revenue sports included: baseball, cross country, field hockey, golf, gymnastics, lacrosse, rowing, track and field, soccer, swimming, tennis, and volleyball. Thus, 77 athletes were classified as participating in revenue sports and 149 were classified as non-revenue sport participants.

A MANOVA was conducted to compare revenue and non-revenue sport participants on perceived athletic trainer-coach conflict. The MANOVA was not significant for level of conflict: Wilks’ \( \lambda = .996 \), \( F (2, 224) = .50, p = .61 \). Thus, athletes participating in revenue or non-revenue sports did not differ in their perceptions of athletic trainer-coach task or relationship conflict (see Table 6 for group means and standard deviations). Next, revenue and non-revenue sports athletes were compared on perceptions of social support from both the athletic trainer and the head coach.
The MANOVA was significant for both athletic trainers:

Wilks’ $\lambda = .91, F (4, 221) = 5.47, p < .05$ and coaches:

Wilks’ $\lambda = .95, F (4, 221) = 3.06, p < .05$. Significant differences emerged between revenue and non-revenue sport participants for modeling social support from both coaches and athletic trainers. Comparison of the means revealed that from both the athletic trainer and coach, perceptions of modeling social support were significantly higher for revenue sport athletes compared to non-revenue sport athletes ($p < .05$).

Table 6

*Means and Standard Deviations for All Constructs by Type of Sport*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Revenue Sport ($n = 77$)</th>
<th>Non-Revenue Sport ($n = 77$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td><strong>Athletic Trainer Social Support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance &amp; Belonging</td>
<td>5.62</td>
<td>1.37</td>
</tr>
<tr>
<td>Appraisal &amp; Coping</td>
<td>5.45</td>
<td>1.49</td>
</tr>
<tr>
<td>Behavioral &amp; Cognitive</td>
<td>5.07</td>
<td>1.72</td>
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<tr>
<td>Modeling</td>
<td>4.62*</td>
<td>1.96</td>
</tr>
<tr>
<td><strong>Coach Social Support</strong></td>
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<td></td>
</tr>
<tr>
<td>Acceptance &amp; Belonging</td>
<td>5.40</td>
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</tr>
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<td>Appraisal &amp; Coping</td>
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<td>Behavioral and Coping</td>
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<tr>
<td>Task Conflict</td>
<td>1.65</td>
<td>.94</td>
</tr>
<tr>
<td>Relationship Conflict</td>
<td>1.62</td>
<td>.93</td>
</tr>
</tbody>
</table>

* indicates a significant difference, $p < .05$
Summary of Findings

The purpose of this study was to explore collegiate athletes’ perceptions of social support and athletic trainer-coach conflict following an injury that caused them to miss at least one week of practices and/or games. The results of this study initially suggest that overall, athletes perceive sufficient levels of social support and low levels of conflict between the athletic trainer and coach. As expected, negative but weak relationships were found to be present between task conflict and acceptance and belonging and appraisal and coping social support, and relationship conflict and behavioral and cognitive and modeling social support from the coach.

Beyond the relationship between conflict and social support, demographic variables were used to determine if a differences existed between the level of competition, player’s status on the team, or the player’s sport and the provision of social support. Revenue athletes perceived higher levels of modeling social support from both the athletic trainer and coach when compared to non-revenue sport athletes. Additionally, significant differences were found as NCAA Division II/III perceived higher levels of social support from the coach when compared to NCAA Division I athletes. No specific subscales of social support were found to be significantly different based upon the level of competition. However, acceptance and belonging and appraisal and coping support both approached significance. No differences emerged between a player’s status on the team or level of competition and social support from the athletic trainer. Additionally, no relationship was found between task or relationship conflict and social support from the athletic trainer. The implications of all findings will be discussed in length in Chapter 5.
CHAPTER 5
DISCUSSION OF FINDINGS

This study was conducted to describe injured collegiate athletes’ perceptions of social support and athletic trainer-coach conflict. More specifically, the study had three specific research purposes: (a) describe collegiate athletes' perceptions of social support and athletic trainer-coach conflict and determine if any relationship exists between perceived social support and athletic trainer-coach conflict, (b) determine if any differences existed on perceived social support or athletic trainer-coach conflict due to an athlete’s playing status (starter v. non-starter) or level of competition (NCAA Division I v. NCAA Division II/III), and (c) determine if any differences existed on perceived social support or athletic trainer-coach conflict due to an athlete’s sport (revenue v. non-revenue). In this chapter, the findings for these three purposes will be discussed and compared to past research. Additionally, limitations of the study, practical implications, and future research directions will be identified.

Purpose 1

The first purpose of this study was to describe collegiate athletes’ perceptions of social support and athletic trainer-coach conflict, and to investigate a possible relationship between perceived social support and athletic trainer-coach conflict. To date, the perceptions of athletes about the presence and possible impact of this conflict have not been examined. This study attempted to describe this relationship. Based upon previous research, it was hypothesized that a negative relationship would exist between perceived social support and athletic trainer-coach conflict.
Unexpectedly, low levels of athletic trainer-coach conflict were reported by athletes in this study. Previous research from athletic trainers’ view has demonstrated the presence of this conflict and its possible negative effects on the athletic trainer (Brumels & Beach, 2008; Capel, 1990; Goodman et al., 2010; Kania et al., 2009; Mazerolle et al., 2013; Pitney et al., 2002; Wolverton, 2013). Several possible reasons exist for the low levels of conflict reported by athletes in this study. First, athletes did not perceive the presence of athletic trainer-coach conflict. These athletes might have been shielded from any disagreements between their athletic trainer and coach about their injury, rehabilitation, or whether or not the athlete was ready to return to full participation.

Second, institutions used to recruit participants could have also impacted the levels of perceived athletic trainer-coach conflict. For example, for one of the NCAA Division I institutions, the athletic trainers are not a part of the athletic department, but rather a separate academic department. The different administrative structure might have an impact on the hiring, retention, and day-to-day athletic training environment. A further discussion of this idea is discussed in the limitations section.

Third, perhaps little conflict actually occurred at the institutions between athletic trainers and coaches. The presence of athletic trainer-coach conflict has been explored from the perspective of the athletic trainer (Capel, 1986; Pitney, 2006; Kania et al., 2009; Mazerolle et al., 2013; Wolverton, 2013). Little research has examined athletic trainer-coach conflict from the coach’s perspective (Podlog & Dionigi, 2010, Podlog & Eklund, 2007). Thus, the reports of athletic trainer-coach conflict could simply be athletic trainers’ perspective on the work environment. Coaches or athletes might not believe this
conflict to be common or a source of potential problems. Fourth, potential differences due to the timing of the injury could have influenced the results. For example, if an injury did not allow for the possibility of a return to play during the season, this may have resulted in less conflict. Alternatively, if an injury occurred during the preseason, but did allow for an athlete to return to play during the season, this may have resulted in more conflict.

Fifth, the method of collecting data about conflict in retrospect may have altered the reported levels of conflict. Athletes could have reported perceived levels of conflict for an injury that occurred in the past year. The athlete’s memory of level of conflict and social support may not have been precise.

With regards to social support, the findings support previous studies which examined the perceptions of social support by collegiate athletes. Consistent with previous studies (Clement & Shannon, 2011; Johnston & Carroll, 1998; Robbins & Rosenfeld, 2001; Yang et al., 2010), injured collegiate athletes perceived high levels of social support from athletic trainers and coaches. Moderate to high levels of social support were perceived in all four areas by athletes in this study: acceptance and belonging, appraisal and coping, behavioral and cognitive, and modeling support. Athletes have consistently reported the need to have someone to who they can talk to and express emotions and feelings about their injury to (Bianco, 2001; Robbins & Rosenfeld, 2001). Additionally, the support provided to injured athletes needs to fulfill their esteem needs. This occurs by ensuring that the injured athlete feels they are still a part of the team (Ford & Gordon, 1999), and can see the possibility for a successful rehabilitation
Most importantly, athletes in this study reported a high level of support through guidance. Injured athletes want information on available services (Fisher & Hoisington, 1993; Johnston & Carroll, 1998), someone who is willing to talk about their injury (Robbins & Rosenfeld, 2001), and someone who can help set realistic goals for rehabilitation and their ultimate return to play (Bianco, 2001; Johnston & Carroll, 1998). This information is needed from a variety of sources, including athletic trainers and coaches, throughout their rehabilitation.

A weak negative relationship was found between athletic trainer-coach conflict and social support from the coach. Thus, as the level of conflict increased, the level of perceived coach social support decreased. Intuitively, this result was expected. If conflict is perceived by the athlete following their injury, the athlete may not feel supported in their recovery. No significant relationships were found between athletic trainer-coach conflict and social support from the athletic trainer. This was the first time either relationship was examined in the literature. Thus, the results must be considered preliminary in nature. Future directions for this research will be discussed later in this chapter.

In summary, findings of this study were consistent with previous research on perceived social support by collegiate athletes. Coaches (Podlog & Eklund, 2007; Robbins & Rosenfeld, 2001; Udry, 1997) and athletic trainers (Clement & Shannon, 2011; Gould et al., 1997; Robbins & Rosenfeld, 2001; Yang et al., 2010) are providers of high levels of social support. In particular, coaches and athletic trainers provide support to meet the expressive (Robbins & Rosenfeld, 2001), guidance (Bianco, 2001; Johnston
& Carroll, 1998) and esteem needs (Johnston & Carroll, 1998; Yang et al., 2014) of injured athletes. This support is important to ensure athletes feel they have the necessary resources to cope with the stress an injury can bring to their life. Surprisingly, low levels of conflict between athletic trainers and coaches was perceived by the athletes in this study. Previous literature has suggested the presence of athletic trainer-coach conflict (e.g. Wolverton, 2013). These findings were not supported in the current study. However, past research examining the presence of athletic trainer-coach conflict has mostly been from the perspective of the athletic trainer (e.g., Brumels & Beach, 2008).

**Purpose 2**

The second purpose of this study was to explore if differences in perceptions of athletic trainer-coach conflict or social support existed based upon the playing status (starter or non-starter) of the athlete at different levels of competition (NCAA Division I or II/III). Three specific questions were investigated in this area: (a) between group differences on perceived athletic trainer-coach conflict by playing status and level of competition, (b) between group differences on perceived social support from the athletic trainer by playing status and level of competition, and (c) between group differences on perceived social support from the coach by playing status and level of competition. Due to the lack of consistency in the literature a hypothesis was only put forth on the presence of group differences on the perception of athletic trainer-coach conflict. The hypothesis predicted that NCAA Division I starters would perceive higher levels of athletic trainer-coach conflict than other groups.
The results of this study found that group differences did not exist for perceptions of athletic trainer-coach conflict or for social support from the athletic trainer. Thus, the hypothesis that NCAA Division I athletes and starters would perceive higher levels of athletic trainer-coach conflict was not supported. Prior research, with a sample of athletic trainers at NCAA Division I institutions, found that athletic-trainer coach conflict occurred (Goodman et al., 2010; Mazerolle et al., 2013, Wolverton, 2013). However, with the current sample of injured athletes, little to no conflict was perceived. With low levels of perceived conflict, between group differences were less likely to occur.

Athletic trainer-coach conflict may frequently occur at all levels of competition. The presence of athletic trainer-coach conflict has been reported at all levels of NCAA competition by athletic trainers (Brumels & Beach, 2008; Kania et al., 2009). Most commonly, this conflict is due to a disagreement over the return to play decision (Goodman et al., 2010; Pitney, 2006; Wolverton, 2013). From the perspective of an athletic trainer, this decision should not be impacted by the level of competition. This decision should be based upon objective data that suggests the athlete is physically and mentally ready to participate (Prentice, 2011). Thus, a coach could disagree with an athletic trainer’s decision, regardless of the level of competition.

Very few studies have examined athletic trainer-coach conflict from the coaches’ perspective. However, Podlog and Eklund (2007) reported that coaches did have a lack of trust for healthcare professionals. Coaches feared healthcare professionals were too conservative in allowing athletes to return to play. Perhaps, this distrust of healthcare
professionals is not dependent upon the level of competition, but rather the coaches’ background. Thus, athletic trainer-coach conflict could occur at all competitive levels.

With regards to differences based on competitive level and status on social support from the athletic trainer, no hypothesis was developed. No significant between group differences were found in this study. Athletic trainers have consistently been reported as quality sources of social support in the literature (Barefield & McCallister, 1997; Bianco, 2001; Clement & Shannon, 2011; Johnston & Carroll, 1998; Robbins & Rosenfeld, 2001; Yang et al., 2010). As athletic trainers have been consistently identified as quality sources of perceived social support, previous findings in the literature support the findings of this study. Athletic trainers simply may provide quality social support for injured athletes, regardless of the level of competition or the athlete’s playing status.

With regards to level of competition, significant differences were present between NCAA Division I and Division II/III athletes on perceptions of social support from the coach. Athletes at lower levels of competition reported significantly higher perceived levels of acceptance and belonging social support from the coach. Acceptance and belonging is similar to the esteem and expressive social support need categories identified by Brown et al. (1987). This was the first time between group differences were investigated for an athlete’s level of competition. Previous studies have examined the perception of social support by athletes at the NCAA Division I level (Barefield & McCallister, 1997; Robbins & Rosenfeld, 2001; Yang et al., 2010). Clement and Shannon (2011) assessed the perceptions of social support from NCAA Division II and III athletes examined. However, between group differences were neither calculated nor reported.
Results from the current study could reflect the mission statements of the different levels of NCAA competition. The NCAA Division I mission statement emphasizes athletic participation as a part of the collegiate experience (NCAA, n.d.a). While NCAA Division II and III philosophies emphasize academics, community service, and other experiences common to the college student (NCAA, n.d.b; n.d.c). This means the coach at the NCAA Division II or III coach may have different concerns and a different approach to interacting with their athletes. Coaches may be willing to provide more social support to the injured student-athlete to ensure that the athlete not only returns to play, but also continues to thrive in other aspects of life as well. At the NCAA Division I level, the coach’s job is related to winning rather than the “many hats” and responsibilities a NCAA Division II or II coach might wear. Consequently, the NCAA Division I coach may be under more pressure to have athletes return to play as soon as possible to help the team in competition. Past research has supported the idea of athletes feeling pressure following an injury caused by a lack of support from their coach (Abgarov et al., 2012; Gould et al., 1997).

Potential group differences on perceptions of social support from coaches was also explored in the current study. Although no significant differences emerged between athletes of varying playing status, both acceptance and belonging and appraisal and coping support approached significance. More specifically, starters perceived higher levels of acceptance and belonging ($p = .08$) and appraisal and coping ($p = .07$) than non-starters regardless of the level of competition. Thus, a possible relationship between playing status and perceived levels of social support from their coach exists.
The current study assessed several types of social support from the coach. The acceptance and coping scale assessed levels of esteem and expressive needs of social support, whereas the appraisal and coping scale assessed expressive and guidance social support needs. This study’s findings tentatively support Corbillon et al. (2008). Corbillon et al. (2008) found that starters perceived higher levels and were more satisfied with social support from both coaches and teammates. More specifically, the participants reported greater levels of task appreciation from their coaches. Task appreciation support occurs when a performance is evaluated and positive feedback about that performance is provided (Richman et al., 1993). This type of support can be similar to guidance needs as defined by Brown et al. (1987). While Brown et al. (1987), identify guidance needs more for providing information and feedback about feelings and emotions, a parallel exists. These results tentatively indicate that starters perceived more social support due to the important role that they have on the team. Starters seemed to perceive higher levels of support to meet their esteem, expressive, and guidance needs. Their coaches may have been more willing to talk, listen, encourage, and guide the athletes following an injury because the coaches likely wanted these athletes back in the game or competition as soon as possible. Thus, the coaches may have done more to ensure the athlete would have a quick and positive outcome during rehabilitation. Additional research would be needed to fully support these conclusions.

**Purpose 3**

The third purpose of this study was to explore if differences in perceptions of athletic trainer-coach conflict or social support existed based upon the sport in which the
athlete participated in. Three specific issues were investigated: (a) between group differences on perceived athletic trainer-coach conflict by type of sport, (b) between group differences on perceived social support from the athletic trainer by type of sport, and (c) between group differences on perceived social support from the coach by type of sport. Due to the lack of consistency in the literature, no hypotheses were put forth.

The results of this study found that group differences between revenue and non-revenue athletes did not exist for perceptions of athletic trainer-coach conflict. While the presence of athletic trainer-coach conflict is well described from the athletic trainers’ perspective (Brumels & Beach, 2008; Capel, 1990; Goodman et al., 2010; Kania et al., 2009; Mazerolle et al., 2013; Pitney et al., 2002; Wolverton, 2013), the athletes in this study did not report high levels of conflict.

Differences emerged between revenue and non-revenue sports and their perceived levels of social support from both the athletic trainer and coach. Revenue sport athletes perceived higher levels of modeling support from both athletic trainers and coaches. Prior research has yet to examine differences between injured athletes based on the revenue status of the sport in relation to social support. Differences on several variables between revenue and non-revenue sports has been examined in the literature (Brooks, Etzel, & Ostrow, 1987; Kim, Andrew, Mahony, & Hums, 2008). These studies could provide some background information through which the results of this study can be better understood. For example, athletic academic advisors provided different levels of support to revenue athletes (Brooks et al., 1987). NCAA Division I academic advisors reported spending the majority of their time (63.8%) with revenue sport athletes. In a similar
fashion, differences have been shown between revenue and non-revenue sport participants’ perceptions of financial support given by the athletic department (Kim et al., 2008). Thus, in the area of athletic department financial and academic support, there could be an imbalance of support towards revenue athletes.

The current study found that revenue sport athletes perceived higher levels of modeling social support following an injury from both the athletic trainer and coach. While only a single area of social support was perceived as different, this information could be useful to improve an athlete’s rehabilitation following an injury. In particular, coaches of non-revenue sports may need to focus on providing their athletes with a model to follow and have the ability to cope with their injuries. Athletic trainers may provide more support in this area due to the atmosphere associated with working with a revenue sport. Revenue sports often have higher ratios of athletic trainers to athletes. Additionally, athletic trainers in this setting often have only a single sport on which to focus. Thus, as athletic trainers in these situations have fewer athletes and sports, they can work more closely with an injured athlete. This close relationship could be perceived as a higher level of social support. Overall, the provision of modeling support from both athletic trainers and coaches could ensure athletes have the optimal environment in which to fully recover from their injury.

Limitations

Limitations exist for the current study. First, limitations were present due to the characteristics of the institutions from which the athletes were recruited. As previously indicated, one of the institutions has a different administrative structure for athletic
training services. The athletic trainers are hired and overseen in an academic department. The athletic department at this institution does not control the recruitment, retention, or assigned duties of the athletic trainers. This administrative structure may insulate the athletic trainers from potential conflict with coaches. As previous studies have indicated, the ability for coaches to have input on the recruitment or retention of athletic trainers to an institution can lead to conflict (Wolverton, 2013). However, with the athletic training staff under a different administrative structure this could lessen conflict between athletic trainers and coaches (Laursen, 2010; Wilkerson, 2012; Wilkerson, Hainline, Colson, & Denegar, 2014). With coaches not having a direct impact on job security for an athletic trainer, the coach may not feel or be in a position to influence the athletic trainer.

Second, limitations to the study could have occurred through the collection of data. An electronic survey was utilized for this study. While the technology made distribution to over 2,300 possible participants quick and easy, some potential problems may have occurred, such as the email not reaching the athlete (e.g., marked as spam or the athlete not opening or reading the email). When designing and sending the survey, attempts were made to mitigate these problems. The Qualtrics system allows for the email to be addressed to decrease the chance that the email is recognized as spam. Additionally, each email was personalized to the athlete at each institution. Third, the nature of the questions about conflict could have been problematic. It was assumed that athletes would answer honestly to all questions. However, when discussing a topic such as conflict between their coach and athletic trainer, some athletes may not have answered honestly, potentially fearing their coach would be informed about their answers.
Practical Implications

Findings from this study could be useful to collegiate athletic trainers and coaches. The overall implication to athletic trainers is to provide support for injured athletes. While earning their entry-level degree, athletic trainers are required to develop both the theoretical knowledge and psychosocial strategies necessary to help athletes successfully recover from an injury (National Athletic Trainers’ Association Executive Committee for Education, 2010). Ensuring a positive cognitive evaluation following an injury and the provision of support in order for the athlete to successfully rehabilitate an injury would be included in the education of an athletic trainer. The overall high levels of perceived social support across all competitive levels, types of sports, and different roles on a team suggest athletic trainers are proficient in assisting an athlete regarding social support and their recovery. Thus, their overall education in this area is a positive and should be maintained.

While overall perceived levels of social support from coaches were high and consistent with past research, some between group differences were reported in the provision of social support for non-revenue sport athletes and athletes at the NCAA Division I level. In particular, modeling and guidance perceptions were different between these groups. This suggests an increased focus of coaches in these settings to guarantee that athletes feel properly supported to allow for a positive recovery following an injury. Past research has suggested coaches are inconsistent providers of social support (Abgarov et al., 2012; Podlog & Eklund, 2006). Past research and results of the current study suggest an increased need for coaches to provide social support to injured athletes.
following an injury. This can occur simply by having an initial talk with an injured athlete to determine how they are feeling and what physical and psychological needs they might have, and following up on these needs. This could include a focus of helping athletes find teammates or other resources in order for them to have the resources to cope with the injury and a model to relate to during the rehabilitation.

Future Directions of Research

The need for further research in several areas has been raised by the results of this study. A weak relationship was found between the perceived levels of social support provided by coaches and the athletes’ status on the team. A similar finding was suggested by Corbillon et al. (2008). Thus, these studies suggest there may be a relationship between external variables and perceived social support. Future studies of an athletes’ status on the team and other variables (e.g., gender, level of competition) should be conducted.

Results of this study suggested athletes perceived a low level of athletic trainer-coach conflict. This result is different than previous literature which suggests athletic trainer-coach conflict may occur more frequently in college athletics (e.g. Wolverton, 2013). While some of the limitations of this study may have impacted this finding, future studies should further examine if athletes do perceive this conflict and any negative impacts this conflict may have upon them. Future studies could change the timing of the collection of data. Assessing athletes’ perceptions of both social support and athletic trainer-coach conflict when athletes are injured or close to returning to play rather than up to a year later may lead to more significant findings.
Collegiate athletes utilize athletic trainers and coaches for high levels of social support when injured. Any possible variables that could impact the levels of perceived social support should be investigated. Athletic trainers and coaches may do a good job of ensuring their athletes do not perceive any conflict between them. However, there are news media reports and studies that suggest athletes do feel pressure and conflict to return to play quickly following an injury (Podlog & Eklund, 2006). Further studies could clarify how consistently this pressure is felt and what effects this pressure has on the emotional and psychological recovery of the injured athlete. This could be accomplished by triangulating the data of perceived or provided social support and athletic trainer-coach conflict from the athletes’, coaches’, and athletic trainers’ perspective.

The results of this study also suggest the examination of the athletic trainers’ work environment. Specifically, perhaps the type of administrative structure can influence athletic trainer-coach conflict. The presence of this conflict is reported from the athletic trainers’ point of view (e.g., Capel, 1986). While athletes in this study may have been shielded from any conflict, the institutions included used in the study might simply have lower levels of athletic trainer-coach conflict. Further examination of variables that may influence the presence of athletic trainer-coach conflict should be examined. A qualitative study examining the athletic trainer’s perspective on the impact of working in a health services environment could expand the knowledge in this area.

Finally, the examination of social support and athletic trainer-coach conflict could be broadened to outside of the collegiate setting. The presence and relationship of these two variables in youth, high school, and professional sport settings has not yet been done.
A descriptive study of athletic trainers, coaches, and athletes in the professional setting to determine the levels of social support and athletic trainer-coach conflict would be an appropriate first study.

Conclusion

Injuries are a more frequently occurring part of collegiate athletics. Over a 16-year period, male injury rates increased 20% while female injury rates increased 80% (Hootman et al., 2007). While these injuries are unfortunate, athletes will need to perceive that those around them, and in particular their athletic trainer and coach, will support the athlete during the rehabilitation process. This will allow the injured athlete to have a positive emotional and behavioral response. These positive responses can help enable a positive outcome to their rehabilitation. The results of this study suggest that college athletes perceive the necessary social support to have that positive response. However, there may be a relationship between the perceived levels of support and other variables. In particular, the athlete’s status or sport in which they participate may be related to perceived social support. Understanding the variables that can influence how an athlete feels support or how they are actually supported by their athletic trainer or coach could improve rehabilitation outcomes, and allow for a safe and quick return to full participation.
REFERENCES


APPENDIX A

LITERATURE MAP
<table>
<thead>
<tr>
<th>Study</th>
<th>Variables</th>
<th>Population</th>
<th>Methods</th>
<th>Results</th>
<th>Conclusions</th>
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<tr>
<td>Barefield &amp; McCallister, 1997</td>
<td>DV = Social Support; IV = Providers of Social Support (certified or student athletic trainers)</td>
<td>$N = 85$ NCAA Division I Athletes (Football, Softball, Baseball, Volleyball, Tennis, Track &amp; Field)</td>
<td>Modified Social Support Survey</td>
<td>Athletes satisfied with all 8 types of social support (means &gt; 3). No significant differences between levels of support sought or provided between students and staff.</td>
<td>Athletes seek support from a variety of sources, including athletic training students. All types of support are sought for and provided by athletic trainers.</td>
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<td>Gould, et al, 1997</td>
<td>DV = Sources of Stress; IV = Internal &amp; External Factors Causing Stress</td>
<td>$N = 21$ US national skiers with season ending injuries (11 male)</td>
<td>Semi-Structured Interview</td>
<td>Sources of stress following an injury included loss, questioning of the injury, losing a spot on the team, fear and emotional readiness to return to play. Concerns surrounding physical well-being, rehabilitation, finances, and career were identified</td>
<td>Stress is very common following an injury. The sources of the stress cover a variety of internal and external factors. Athletes with a successful rehabilitation had more empathy, fewer negative relationships, and fewer concerns about performance. Communication with injured athletes by members of the team and staff were helpful to injured athletes.</td>
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<td>Udry 1997</td>
<td>DV = Coping Strategies, Social Support &amp; Rehabilitation Adherence; IV = Phase of Rehabilitation Process</td>
<td>$N = 25$ ACL reconstruction patients (15 male)</td>
<td>Coping with Health and Injury Problems Survey, Profile of Mood States Survey, Social Support Inventory</td>
<td>Instrumental coping most used, palliative least used; negative emotional and palliative coping changed significantly over time; instrumental coping largest predictor of rehabilitation adherence</td>
<td>Social support did not demonstrate a significant change over the course of the rehabilitation process. Consistent levels are constantly needed. However, social support does predict adherence to rehabilitation.</td>
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<td>Johnston &amp; Carroll, 1998</td>
<td>DV = Social Support; IV = Time and Providers of Social Support (healthcare professionals, coaches, teammates)</td>
<td>$N = 12$ previously injured participants ($n = 8$ men)</td>
<td>Semi-Structured Interview</td>
<td>Informational and technical support most desired support throughout; informational support sought from coaches at the end of rehabilitation; Need for emotional support decreases throughout rehab</td>
<td>The type and amount of support needed varies throughout rehab; information becomes more important as rehab progresses, ATC and then coach are preferred; technical support also preferred from coach</td>
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<td>Ford &amp; Gordon, 1999</td>
<td>DV = handling loss/stress following injury; IV = assistance required to handle loss</td>
<td>$N = 4$ athletes who underwent knee surgery (2 male)</td>
<td>Semi-Structured Interview</td>
<td>Common themes surrounded resources lost and resources gained following surgery. These included both internal and external factors.</td>
<td>Following an injury, athletes have a sense of loss of productivity, achievement and self-worth. Social support is needed to help diminish and recover from these losses.</td>
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<td>Bianco 2001</td>
<td>DV = Social Support; IV = Time and Providers of Social Support (healthcare professionals, coaches, teammates)</td>
<td>$N = 10$ Canadian national team skiers with injuries lasting 21+ days ($n = 8$ male)</td>
<td>Semi-Structured Interview</td>
<td>During injury phase, emotional, informational and tangible support sought from coaches, teammates, family. During rehabilitation phase, physicians and therapists are included as important sources of support. During return to play phase, information needed from healthcare professionals, emotional and tangible support sought from coaches.</td>
<td>The type and source of social support will vary throughout the rehabilitation process. Providers are not sought for unique types of support. Very often, multiple forms of support are sought from the same source.</td>
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<td>Robbins &amp; Rosenfeld, 2001</td>
<td>DV = Satisfaction with Social Support, Well-being; IV = Sources of Support (Head Coach, Assistant Coach, Athletic Trainer)</td>
<td>$N = 35$ athletes with injury causing 3+ days of missed practice/games ($n = 19$ male)</td>
<td>Social Support Survey</td>
<td>ATCs better than coaches with listening, task appreciation, task challenge, emotional and reality confirmation compared to coaches; listening &amp; task appreciation most important during rehab</td>
<td>Overall, few differences in the provision of social support from athletic trainers, coaches, and assistant coaches. In a few areas, athletic trainers provision of social support was higher than coaches.</td>
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<td>Washington-Lofgren et al., 2004</td>
<td>DV = Athletes' expectations for Athletic Trainers During Rehabilitation to Assist in Psychological Recovery and Athletic Trainers' Views and Practices for Assisting with Psychological Recovery; IV = Gender, Playing Status, and Type of Injury</td>
<td>$N = 52$ College Athletes and 105 Athletic Trainers</td>
<td>Athlete Rehabilitation Perception Scale and Interview</td>
<td>No Significant Difference between athletes' expectations for help with psychological recovery and any of the independent variables. Athletes did have a high expectation of athletic trainers to be prepared to and assist in psychological recovery.</td>
<td>Athletes and Athletic Trainers both understand the importance of help in the psychological recovery following an injury. There were no differences in the expectations of help with recovery between any variables examined.</td>
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<td>Podlog &amp; Eklund, 2006</td>
<td>DV = Experience in Return to Play Following an Injury; IV = Psychosocial Issues, Phase of Rehabilitation Process</td>
<td>N = 12 Injured Semi-Pro Australian Athletes (7 male)</td>
<td>Structured Interview</td>
<td>Common themes during pre-competitive phase surrounded factors in the decision making process, emotional response and motivation for return. During the competitive phase, common themes included dealing with fears, adversity, and positive consequences of the injury.</td>
<td>Overall athletes reported the importance of encouragement not to return too quickly from an injury while also warning against pressure to return too quickly. Emotional responses were common throughout the rehabilitation process.</td>
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<td>Corbillon, Crossman &amp; Jamieson, 2008</td>
<td>DV = Social Support; IV = Coaches, Teammates, Gender, Number of Injuries, Years of Experience, Status</td>
<td>N = 72 (n = 46 men) Canadian collegiate athletes</td>
<td>Questionnaire on Satisfaction with Social Support</td>
<td>Coaches provided significantly less emotional support than teammates. Listening support was the most common form provided. Task appreciation support from coaches was the most helpful. Listening support from teammates was the most helpful type of support provided by this source. Non-starters, those with more previous injuries and more experience reported less social support.</td>
<td>Coaches and teammates are important sources of support. The status on the team and injury history may have some impact on social support provided.</td>
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<td>Malinauskas, 2010</td>
<td>DV = Life Satisfaction, Stress Following an Injury &amp; Social Support; IV = Severity of Injury</td>
<td>N = 123 injured university (Lithuania) athletes (n = 69 male)</td>
<td>Multidimensional Scale of Perceived Social Support; Perceived Stress Scale, Satisfaction with Life Scale</td>
<td>Significant difference in life satisfaction and stress between athletes with minor and major injuries. Interaction of perceived stress and social support did significantly impact life satisfaction for athletes with a major injury.</td>
<td>Social support and stress impact athlete's satisfaction with life following a major injury. Minor injured athletes demonstrate less of an effect due to perceived levels of stress and social support.</td>
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<tr>
<td>Podlog &amp; Dionigi, 2010</td>
<td>DV = Challenges for Injured Athletes; IV = Coaches Strategies for Challenges and Coaches' Opinions and Understanding of these Strategies</td>
<td>N = 8 Coaches (n = 5 males) from Wester Australia Institute of Sport</td>
<td>Interview</td>
<td>Common themes that emerged: coordinate team approach to rehab, social support, communication with injured athletes, and need for positive thinking by injured athletes.</td>
<td>It was important to the coaches for the athletes to be in control and feel competent. This was accomplished through using the right people (rehab specialists), role models and goal setting, providing support in any way possible.</td>
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<td>Yang, et al., 2010</td>
<td>DV = Changes in Social Support pre and post injury; IV = gender, sources of support (coaches, athletic trainers, friends, teammates, parents),</td>
<td>N = 256 Injured NCAA Division I Athletes (n = 167 male)</td>
<td>6 item Social Support Questionnaire</td>
<td>Baseline - normal social support primarily from friends/family; after injury - significant reliance on ATC, coaches, physicians; Females reported greater satisfaction with social support from coaches and physicians</td>
<td>Athletic trainers and coaches are relied upon heavily by collegiate athletes for social support following an injury. In particular, athletic trainers are used for social support at significantly higher rates post-injury, compared to pre-injury.</td>
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<td>Clement &amp; Shannon, 2011</td>
<td>DV = Social Support; IV = Providers of social support (coaches, athletic trainers, &amp; teammates), year in school, number of previous injuries.</td>
<td>N = 49 (n = 27 men) injured NCAA Division II &amp; III athletes</td>
<td>Social Support Survey</td>
<td>Athletes were significantly more satisfied with social support provided by athletic trainers compared to teammates. No significant differences between groups for availability of social support. No relationship between year in school or number of injuries and social support.</td>
<td>Athletic trainers are important sources of social support. While athletes appear to be satisfied with the levels of support coaches, athletic trainers, and teammates provide.</td>
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<tr>
<td>Abgarov, et al., 2012</td>
<td>DV = Social Support; IV = Providers of Social Support (coach, healthcare professionals, teammates, and parents)</td>
<td>N = 12 Canadian collegiate swimmers, 3 years post-injury (n = 7 male)</td>
<td>Semi-Structured Interview</td>
<td>3 common themes: 1. Don't bring negative energy to practice. 2. Show me you care. 3. Provide me with some clear and appropriate direction.</td>
<td>Athletes need to feel supported and a part of the team. Inconsistent support was reported from both coaches and athletic trainers. Some coaches seemed to be in denial about their injury. Conflict was present between coach and healthcare recommendations.</td>
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<tr>
<td>Yang et al., 2014</td>
<td>DV = Social Support; IV = Depression &amp; Anxiety Symptoms at Return to Play</td>
<td>N = 387 athletes (594 injuries), (n = 257 males)</td>
<td>6 item Social Support Questionnaire; State-Trait Anxiety Scale; Center for Epidemiological Studies Depression Scale</td>
<td>84% of injured athletes reported receiving social support from an athletic trainer. Dependability, acceptance of the athlete, caring for them and a calming effect were reported as the most common forms of support. Injured athletes satisfied with social support received (84%) were significantly less likely to be anxious/depressed prior to the return to play.</td>
<td>Athletic trainers are significant sources of social support for athletes. There may be a relationship between satisfaction of social support and anxiousness of returning play.</td>
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### Rehabilitation & Social Support Literature Map

<table>
<thead>
<tr>
<th>Study</th>
<th>Variables</th>
<th>Population</th>
<th>Methods</th>
<th>Results</th>
<th>Conclusions</th>
</tr>
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<tbody>
<tr>
<td>Fisher et al., 1988</td>
<td>DV = Rehabilitation adherence; IV = Personal &amp; Situational Factors</td>
<td>$N = 41$ previously injured college athletes ($n = 21$ men); 21 adherents, 20 non-adherents</td>
<td>Rehabilitation Adherence Questionnaire</td>
<td>Significant differences between adherents and non-adherents included: support from others and the environment among other factors.</td>
<td>Social support was the greatest predictor of rehabilitation adherence. However, other factors do play a significant role as well.</td>
</tr>
<tr>
<td>Duda et al., 1989</td>
<td>DV = rehabilitation adherence; IV = personal incentives, sense of self variables, perceived options</td>
<td>$N = 40$ injured intercollegiate athletes at 6 institutions</td>
<td>Maehr &amp; Braskamp's Inventory of Personal Investment, Health Locus of Control Inventory, Self-Motivation Inventory, Social Support Questions, Perceived Options Questions</td>
<td>Task involvement, social support, self-motivation and high self-efficacy for treatment were best predictors of rehabilitation adherence.</td>
<td>Overall, personal incentives did not drive rehabilitation adherence. Social support was one of the biggest factors of adherence. It appears that support may influence rehab adherence.</td>
</tr>
<tr>
<td>Fisher &amp; Hoisington, 1993</td>
<td>DV = Rehabilitation Adherence; IV = attitudes and judgements</td>
<td>$N = 36$ ($n = 34$ male) college athletes at 3 institutions</td>
<td>Athletic Injury Rehabilitation Adherence Questionnaire</td>
<td>Successful strategies included caring attitude by the ATC, encouragement, honesty, and goal setting. Increased information and attention would have been appreciated by the athletes.</td>
<td>Athletes clearly demonstrate a need for multiple types (information and emotional most common) of social support in order to adhere to rehabilitation programs.</td>
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<tr>
<td>Byerly et al., 1994</td>
<td>DV = Rehabilitation Adherence; IV = Pain, Scheduling, Exertion, Social Support, Motivation, Environment</td>
<td>N = 44 NCAA Division II Athletes (n = 39 men, 5 women)</td>
<td>Adherence Questionnaire (Fisher), Rehabilitation Attendance</td>
<td>Significant difference between adherent and non-adherent groups for pain and social support reported. Environment and motivation correlate to adherence.</td>
<td>Athletes positively adhere to rehabilitation programs most when social support (among other variables) from athletic trainers is high.</td>
</tr>
<tr>
<td>Udry 1997</td>
<td>DV = Coping Strategies, Social Support &amp; Rehabilitation Adherence; IV = Phase of Rehabilitation Process</td>
<td>N = 25 ACL reconstruction patients (n = 15 male)</td>
<td>Coping with Health and Injury Problems Survey, Profile of Mood States Survey, Social Support Inventory</td>
<td>Instrumental coping most used, palliative least used; negative emotional and palliative coping changed significantly over time; instrumental coping largest predictor of rehabilitation adherence</td>
<td>Social support did not demonstrate a significant change over the course of the rehabilitation process. Consistent levels are constantly needed. However, social support does predict adherence to rehabilitation.</td>
</tr>
<tr>
<td>Bone &amp; Fry, 2006</td>
<td>DV = Beliefs About Rehabilitation (Susceptibility, Treatment Efficacy, Self-Efficacy, Rehabilitation Value, Severity); IV = Social Support</td>
<td>N = 35 NCAA Division I Athletes (n = 35 men, 22 women)</td>
<td>Social Support Survey, Sports Injury Rehabilitation Beliefs Survey</td>
<td>Significant correlation between social support and treatment efficacy and self-efficacy in severely injured athletes</td>
<td>Overall, no relationship was present for all injured athletes. However, severely injured athletes appear to have a greater belief in treatment and themselves when sufficient social support is provided by the athletic trainer</td>
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### Athletic Trainer-Coach Conflict - Athletic Trainer Viewpoint Literature Map

<table>
<thead>
<tr>
<th>Study</th>
<th>Variables</th>
<th>Population</th>
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<tr>
<td>Capel, 1986</td>
<td>DV = Burnout; IV = Role Conflict, Role Ambiguity, Control, # of Athletes, &amp; Contact Hours</td>
<td>$N = 332$ Athletic Trainers</td>
<td>Maslach Burnout Inventory, Rizzo et al Role Conflict &amp; Ambiguity Survey, Rotter Internal/External Locus of Control Scale</td>
<td>Prediction of burnout occurs through role conflict, number of hours, external locus of control, and role ambiguity.</td>
<td># of athletes, hours, conflict, ambiguity in role, and locus of control can predict emotional exhaustion, depersonalization, and job dissatisfaction.</td>
</tr>
<tr>
<td>Capel, 1990</td>
<td>DV = Occupation Change; IV = Reasons for Leaving</td>
<td>$N = 219$ previously Employed Athletic Trainers</td>
<td>Questionnaire</td>
<td>Conflicts was the #3 most disliked part of job. Too many headaches and conflict were reasons for not applying for another job in AT.</td>
<td>One of many reasons ATCs left the profession include conflict. Typically the ATCs seek employment in similar fields with fewer conflicts.</td>
</tr>
<tr>
<td>Hendrix &amp; Acevedo, 2000</td>
<td>DV = Burnout &amp; Stress; IV = Hardiness, Social Support, &amp; Work Issues</td>
<td>$N = 118$ NCAA Division I Athletic Trainers</td>
<td>Hardiness test, Social Support Questionnaire, Athletic Training Issues Survey</td>
<td>Variables that will predict stress include: hardiness, social support, and athletic training issues</td>
<td>Emotional exhaustion and low personal accomplishment will predict perceived stress. Thus athletic trainers who feel they have control over stress, can deal better with it.</td>
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<tr>
<td>Pitney et al., 2002</td>
<td><strong>DV =</strong> Professional Socialization; <strong>IV =</strong></td>
<td>N = 16 NCAA Division I Athletic Trainers (n = 11 male, 5 female)</td>
<td>Semi-Structured Interview</td>
<td>Athletic trainers faced role instability after starting in profession. This occurred because of conflict and organizational control/structure.</td>
<td>Overall, there is conflict that occurs and is perceived by new athletic trainers. However, they want to remain focused on student athletes.</td>
</tr>
<tr>
<td>Pitney, 2006</td>
<td><strong>DV =</strong> Professional Socialization; <strong>IV =</strong> Organizational Influences &amp; Quality of Life Issues</td>
<td>N = 16 (n = 14 Athletic Trainers, 2 Athletic Directors)</td>
<td>Semi-Structured Interview</td>
<td>Two main themes emerged: organization influence (i.e. organizational structure with ATCs on low end) and quality of life issues (i.e. burnout)</td>
<td>Organizational structure and the relationship with administrators and coaches caused more stress and negative reactions for new ATCs.</td>
</tr>
<tr>
<td>Brumels and Beach, 2008</td>
<td><strong>DV =</strong> Job complexities; <strong>IV =</strong> Job Satisfaction, Job Retention</td>
<td>N = 348 collegiate athletic trainers</td>
<td>Role Strain Scale</td>
<td>Role Incongruity was major predictor for stress, job satisfaction, and intent to leave for clinicians</td>
<td>Satisfaction plays a major role in stress and job retention. Role ambiguity and incongruity were the major predictors of job satisfaction.</td>
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<tr>
<td>Kania et al., 2009</td>
<td>$DV = \text{Burnout}; IV = \text{Personal and Environmental Characteristics}$</td>
<td>$N = 206 \text{ NCAA Division I Athletic Trainers}$</td>
<td>Maslach Burnout Inventory</td>
<td>Stress level and leisure time were predictive of emotional exhaustion, depersonalization, and personal accomplishment.</td>
<td>The relationship with coaches, pressure and stress of the job, and other factors of stress can predict the emotional health of the athletic trainer.</td>
</tr>
<tr>
<td>Goodman et al., 2010</td>
<td>$DV = \text{Job Retention}; IV = \text{factors effecting job retention}$</td>
<td>$N = 23 \text{ female NCAA Division I FBS Athletic Trainers}$</td>
<td>Semi-Structured Interview</td>
<td>Reasons for leaving the profession include: life balance issues, conflict, role overload, role conflict.</td>
<td>Those that persist in the NCAA Division I setting enjoy the environment. Personal and professional conflicts were the main reasons for leaving positions.</td>
</tr>
<tr>
<td>Mazerolle et al., 2013</td>
<td>$DV = \text{Job Retention}; IV = \text{factors effecting job retention}$</td>
<td>$N = 8 \text{ NCAA Division I Athletic Trainers}$</td>
<td>Semi-Structured Interview</td>
<td>4 themes emerged as predictive of career/job departure: role strain, work-family conflict, role transition, and lack of career advancement</td>
<td>Role conflict most commonly occurred with coaches. Role overload (too many expectations, not enough resources) also predicted job satisfaction.</td>
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<tr>
<td>Wolverton, 2013</td>
<td>$DV = \text{Athletic Trainer-Coach Conflict}; IV = \text{N} = 101 \text{ NCAA Division I Football Athletic Trainers}$</td>
<td>Survey</td>
<td>53% of ATCs felt pressure from coaches to RTP, 42% felt pressure after a concussion</td>
<td>It is common at the NCAA Division I level for there to be disputes between coaches and ATCs on return to play.</td>
<td></td>
</tr>
<tr>
<td>Jehn, 1995</td>
<td>$DV = \text{Relationship and task conflict, and type of job tasks}; IV = \text{job satisfaction, group, and individual performance.}$</td>
<td>$N = 589 \text{ workers at an international transportation firm}$</td>
<td>Intergroup Conflict Survey</td>
<td>Satisfaction, liking of group members and intent to remain were highly correlated to conflict.</td>
<td>Conflict has a curvilinear relationship with non-routine tasks. High levels of task conflict had a negative relationship on performance.</td>
</tr>
<tr>
<td>Frone, 2000</td>
<td>$DV = \text{Conflict with Supervisors}; IV = \text{Job Satisfaction, Organizational Commitment, Turnover Intentions}$</td>
<td>$N = 312 \text{ employed adolescents}$</td>
<td>Interpersonal Conflict Survey adapted from Spector among other surveys</td>
<td>Conflict with coworkers impacted depression, self-esteem, and somatic symptoms. Supervisor conflict was correlated to job satisfaction, organizational commitment, and turnover intentions.</td>
<td>Conflict has an impact on both the relationship between coworkers and long term stability of employees. Health and psychological outcomes are related to conflict.</td>
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<tr>
<td>Cortina &amp; Magley, 2009</td>
<td>DV = Uncivility at Work; IV = Level of Job Position, Coping Methods</td>
<td>n = 2772 small university employees, 4605 attorneys, 1167 federal employees</td>
<td>Workplace Incivility Scale; Interpersonal Mistreatment Scale</td>
<td>The vast majority of employees had encountered uncivil behavior at work. The uncivil behavior was most commonly described as annoying and frustrating.</td>
<td>Workplace conflict is not perceived as threatening but is perceived as offensive, frustrating, and annoying. The incivility is very infrequently discussed with supervisors</td>
</tr>
<tr>
<td>DeRaeve et al., 2009</td>
<td>DV = Interpersonal Conflicts at Work; IV = Health Outcomes, Internal Job Mobility, External Job Mobility</td>
<td>N = 5582 Workers</td>
<td>Data from Maastricht Cohort Study</td>
<td>Conflict was reported with coworkers (7.2%) and supervisors (9.5%). Significant effects of reported conflict on general health, increased fatigued, and decreased internal job mobility.</td>
<td>The longer conflicts existed, the greater the impacts on health reported. Also, those who have experienced conflict are more likely to move on to another position.</td>
</tr>
<tr>
<td>Jehn et al., 2010</td>
<td>DV = Intragroup Conflict, IV = Group Performance &amp; Group Creativity</td>
<td>N = 167 employees</td>
<td>Multiple Scales</td>
<td>Performance and satisfaction with team (co-workers) was negatively related to perception of task conflict.</td>
<td>Workers who have a negative view of a group work setting will report decreased performance, outcomes, and attitudes.</td>
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### Healthcare Provider Conflict Literature Map

<table>
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<tr>
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<th>Variables</th>
<th>Population</th>
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<tr>
<td>Price &amp; Mueller, 1981</td>
<td>DV = Job Satisfaction, Intent to Stay, Turnover; IV = Opportunity, Routine, Participation, Communication, Integration</td>
<td>N = 1,091 nurses</td>
<td>Longitudinal survey based study</td>
<td>Intent to stay is influenced by job satisfaction, general training, and greater kinship responsibilities.</td>
<td>Opportunity was the largest predictor of intent to stay. However, kinship responsibility also played a role.</td>
</tr>
<tr>
<td>Knaus et al., 1986</td>
<td>DV = Patient Outcomes; IV = Structure &amp; Process of Intensive Care</td>
<td>N = 13 Hospitals</td>
<td>APACHE II Survey (Severity of Illness), Therapeutic Intervention Score</td>
<td>Hospitals 1, 3, 4 and 13 demonstrated the largest difference in outcomes and also in the coordination of patient care.</td>
<td>Highest quality of care was demonstrated in the hospitals with the highest degree of coordination between physicians and nurses.</td>
</tr>
<tr>
<td>Katzman &amp; Roberts, 1988</td>
<td>DV = Nursing Behaviors; IV = Physician Relationships, Gender Roles, Social Roles</td>
<td>N = 11 Female Nurses</td>
<td>Field Study</td>
<td>Major themes were: subordinate roles, role definition, deference and demeanor, and lack of interaction.</td>
<td>Nurses demonstrated deference to the physicians despite being just important as physicians.</td>
</tr>
<tr>
<td>Baggs et al., 1999</td>
<td>DV = Patient Outcomes; IV = Provider Collaboration, Severity of Illness</td>
<td>N = 304 Healthcare Providers (n = 162 nurses, 142 physicians)</td>
<td>Collaborating and Satisfaction about Care Decisions Survey, APACHE III Survey (Severity of Illness),</td>
<td>Strong correlation between patient outcomes and levels of collaboration. In particular, a lower risk of negative outcomes was predicted by nurse collaboration.</td>
<td>Patient outcomes can be effected by how well healthcare providers discuss and work together.</td>
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<tr>
<td>Rosenstein &amp; O'Daniel, 2005</td>
<td>DV = Patient Care; IV = Perceptions of Impact of Disruptive Behavior</td>
<td>N = 1509 Healthcare Providers (n = 1091 Nurses, 402 Physicians, 16 Administrators)</td>
<td>Survey</td>
<td>86% of nurses report disruptive behavior between nurses and physicians; about 50% of doctors report the same behavior. 90% of physicians and 92% of nurses reported behavior that impaired their relationship.</td>
<td>Physician-nurse conflict was a commonly reported occurrence. How often it occurred was influenced by who was asked. However, both groups indicated it disrupted the relationship.</td>
</tr>
<tr>
<td>Manojlovic &amp; DeCicco, 2007</td>
<td>DV = Patient Outcomes; IV = Nurses Perceptions of Working Environment, Nurse-Physician Communication</td>
<td>N = 462 Intensive Care Nurses</td>
<td>Conditions for Work Effectiveness Questionnaire II, Practice Environment Scale of the Nursing Work Index, ICU Nurse-Physician Questionnaire</td>
<td>Intra and inter-professional boundaries were common themes that effected the quality of care provided to patients.</td>
<td>Patient care and outcomes are impacted by a variety of influences. Among these are the boundaries between professionals that are supposed to be working together.</td>
</tr>
<tr>
<td>Hewett et al., 2009</td>
<td>DV = Quality of Patient Care, Interspeciality Behavior; IV = Intergroup Communication</td>
<td>N = 45 Physicians</td>
<td>Convergent Interviewing</td>
<td>Four dominant themes emerged: patient, time, bleed (how patients were treated), and problem.</td>
<td>Intergroup posturing, rivalry took precedence over patient care.</td>
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### Coach-Parent Conflict Literature Map

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<tr>
<th>Study</th>
<th>Variables</th>
<th>Population</th>
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<th>Results</th>
<th>Conclusions</th>
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<tr>
<td>Jowett &amp; Timson-Katchis, 2005</td>
<td>DV = Athlete-Coach Relationship; IV = Parents</td>
<td>$N = 15$ Greek/Cypriot Athletes</td>
<td>Structured Interview</td>
<td>Main themes revolved around information, support, relationship realignment, closeness, and commitment.</td>
<td>Parents who negatively influenced the athlete-coach relationship could have caused distancing in this relationship.</td>
</tr>
<tr>
<td>Jowett &amp; Cramer, 2010</td>
<td>DV = Athlete's Descriptions of Physical Self; IV + Perceptions of Coach-Parent Relationship Quality</td>
<td>$N = 173$ British Youth Athletes ($n = 64$ male)</td>
<td>Quality Relationship Inventory, Elite Athlete Self Description Questionnaire</td>
<td>Relationship between coach-parent conflict and perception of skills by the athlete. As parent conflict increased, the athletes ability to predict skill had a negative relationship.</td>
<td>Conflict between the athlete and parents/coaches can negatively effect the athlete's ability to perceive their own skill level.</td>
</tr>
<tr>
<td>Tamminen &amp; Holt, 2012</td>
<td>DV = Athletes Methods of Coping; IV = Roles of Parents &amp; Coaches</td>
<td>$N = 17$ Athletes ($n = 9$ male), 10 Parents ($n = 4$ male), &amp; 7 Coaches</td>
<td>Semi-Structured Interviews/ Grounded Theory</td>
<td>Common themes for athletes learning to cope were: sport experiences, learning through trial and error, reflective practice, and coping outcomes.</td>
<td>Parents and coaches play a large role in athletes learning during sport activity.</td>
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</table>
Letter of Cooperation

University of Northern Iowa and Central College

10/22/2014

Nathan Newman, Doctoral Candidate
Allied Health, Recreation, and Community Services
University of Northern Iowa
Cedar Falls, IA 50614-0241

Mr. Newman:

The Athletic Department at Central College is pleased to collaborate with you on your project titled, “Effects of Athletic Staff Relationships on Social Support for Injured Collegiate Athletes.”

We understand that participating in this research project will include receiving and forwarding an email invitation and link to a web based survey, to be forwarded to Varsity athletes at Central College. We had ample opportunities to discuss the research with you and to ask for clarifications. Furthermore, I and key personnel for this project will maintain confidentiality of all research participants in all phases of this project. According to our agreement, project activities will be carried out as described in the research plan reviewed and approved by the University of Northern Iowa Institutional Review Board.

We look forward to working with you, and please consider this communication as our Letter of Cooperation.

Sincerely,

Eric Van Kley
Athletic Director
Central College
Letter of Cooperation
University of Northern Iowa Athletics Department

3/3/2015

Nathan Newman, Doctoral Candidate
Allied Health, Recreation, and Community Services
University of Northern Iowa
Cedar Falls, IA 50614-0241

Mr. Newman:

The Athletic Department at the University of Northern Iowa is pleased to collaborate with you on your project titled, "Effects of Athletic Staff Relationships on Social Support for Injured Collegiate Athletes."

We understand that participating in this research project will include receiving and forwarding an email invitation and link to a web based survey, to be forwarded to student-athletes at the University of Northern Iowa. We had ample opportunities to discuss the research with you and to ask for clarifications. Furthermore, I and key personnel for this project will maintain confidentiality of all research participants in all phases of this project. According to our agreement, project activities will be carried out as described in the research plan reviewed and approved by the University of Northern Iowa Institutional Review Board.

We look forward to working with you, and please consider this communication as our Letter of Cooperation.

Sincerely,

[Signature]
Jean Berger
Senior Associate Athletics Director
University of Northern Iowa
Letter of Cooperation
University of Northern Iowa and Loras College

10/22/214

Nathan Newman, Doctoral Candidate
Allied Health, Recreation, and Community Services
University of Northern Iowa
Cedar Falls, IA 50614-0241

Mr. Newman:

The Athletic Department at Loras College is pleased to collaborate with you on your project titled, "Effects of Athletic Staff Relationships on Social Support for Injured Collegiate Athletes."

We understand that participating in this research project will include receiving and forwarding an email invitation and link to a web-based survey, to be forwarded to Varsity athletes at Loras College. We had ample opportunities to discuss the research with you and to ask for clarifications. Furthermore, I and key personnel for this project will maintain confidentiality of all research participants in all phases of this project. According to our agreement, project activities will be carried out as described in the research plan reviewed and approved by the University of Northern Iowa Institutional Review Board.

We look forward to working with you, and please consider this communication as our Letter of Cooperation.

Sincerely,

Denise Udolpho
Interim Athletic Director
Athletic and Wellness Center
Loras College
Letter of Cooperation
University of Northern Iowa and University of Iowa

03/05/2015

Nathan Newman, Doctoral Candidate
Allied Health, Recreation, and Community Services
University of Northern Iowa
Cedar Falls, IA 50614-0241

Mr. Newman:

The Athletic Department at the University of Iowa is pleased to collaborate with you on your project titled, “Effects of Athletic Staff Relationships on Social Support for Injured Collegiate Athletes.”

We understand that participating in this research project will include allowing a survey to be distributed to athletes at the University of Iowa. We had ample opportunities to discuss the research with you and to ask for clarifications. Furthermore, I and key personnel for this project will maintain confidentiality of all research participants in all phases of this project. According to our agreement, project activities will be carried out as described in the research plan reviewed and approved by the University of Northern Iowa Institutional Review Board.

It has been explained that an athlete will only participate in this study on a voluntary basis. Additionally, every attempt will be made to maintain each athlete’s confidentiality during this study. Demographic questions related to playing status level, gender, and race will be asked. However, this information will only be used to describe the sample as a whole. It will not be used to identify individual athletes. Athletes may provide an email address in the last question of the survey. This information will only be provided if the athlete chooses to volunteer for a qualitative follow-up study. The participation in the follow up study is completely voluntary. The email address will not be connected to the answers provided.

Finally, it has been agreed that a copy of the final research project will be provided to the University of Iowa Athletics Department.

We look forward to working with you, and please consider this communication as our Letter of Cooperation.

Sincerely,

Fred Mims
Associate Athletics Director for Student-Athlete Affairs
University of Iowa
Letter of Cooperation
University of Northern Iowa and Upper Iowa University

10/22/2014

Nathan Newman, Doctoral Candidate
Allied Health, Recreation, and Community Services
University of Northern Iowa
Cedar Falls, IA 50614-0241

Mr. Newman:

The Athletic Department at Upper Iowa University is pleased to collaborate with you on your project titled, “Effects of Athletic Staff Relationships on Social Support for Injured Collegiate Athletes.”

We understand that participating in this research project will include receiving and forwarding an email invitation and link to a web based survey, to be forwarded to athletes at Upper Iowa University. We had ample opportunities to discuss the research with you and to ask for clarifications. Furthermore, I and key personnel for this project will maintain confidentiality of all research participants in all phases of this project. According to our agreement, project activities will be carried out as described in the research plan reviewed and approved by the University of Northern Iowa Institutional Review Board.

We look forward to working with you, and please consider this communication as our Letter of Cooperation.

Sincerely,

David Miller
Director of Athletics
Upper Iowa University

Cc: Matt Rucckert, Head Athletic Trainer
Brandy Rideout, SWA, Asst AD for Student-Athlete Services
Brock Wismiller, Asst AD for External Affairs
Kent McElvania, Asso AD for Compliance
IRB Approval Letter

Nathan Newman
3122 Arbor Oaks Drive
Dubuque, IA  52001

Re: IRB 15-0233

Dear Mr. Newman:

Your study, Effects of Athletic Staff Relationships on Social Support for Injured Collegiate Athletes has been approved by the UNI IRB effective 3/13/15, following an Expedited review of your application performed by IRB member, Jennifer Waldron Ph.D. You may begin enrolling participants in your study.

Modifications: If you need to make changes to your study procedures, samples, or sites, you must request approval of the change before continuing with the research. Changes requiring approval are those that may increase the social, emotional, physical, legal, or privacy risks to participants. Your request may be sent to me by mail or email.

Problems and Adverse Events: If during the study you observe any problems or events pertaining to participation in your study that are serious and unexpected (e.g., you did not include them in your IRB materials as a potential risk), you must report this to the IRB within 10 days. Examples include unexpected injury or emotional stress, missteps in the consent documentation, or breaches of confidentiality. You may send this information to me by mail or email.

Expiration Date: Your study approval will expire on 3/13/16. Beyond that, you may not recruit participants or collect data without continuing approval. We will email you an Annual Renewal/Update form about 4-6 weeks before your expiration date, or you can download it from our website. You are responsible for seeking continuing approval before your expiration date whether you receive a reminder or not. If your approval lapses, you will need to submit a new application for review.

Closure: If you complete your project before the expiration date, or it ends for other reasons, please download and submit the IRB Project Renewal/Closure form and submit in order to close out your protocol file. It is especially important to do this if you are a student and planning to leave campus at the end of the academic year. Advisors are encouraged to monitor that this occurs.

Forms: Information and all IRB forms are available online at http://www.uni.edu/rsp/protection-human-research-participants.

If you have any questions about Human Participants Review policies or procedures, please contact me at 319.273.6148 or anita.gordon@uni.edu. Best wishes for your project success.

Sincerely,

[Signature]

Anita M. Gordon, Ph.D.
IRB Administrator

cc: Windee Weiss, Faculty Advisor
Letters to Participants

Introduction Letter

I need your assistance! I am a graduate student at the University of Northern Iowa and I am trying to collect data about the relationships that athletes have with athletic trainers and coaches after an injury.

Follow this link to the Survey:

https://uni.co1.qualtrics.com/SE/?SID=SV_cvdsW7sBuyvqnVX

I am asking student athletes at colleges and universities within the state for their opinion in this area. The following survey will help collect data about how your athletic trainer and coach supported you following an injury. Your responses about your experiences following an injury are important.

Your responses will help in providing better clarity on how injured athletes feel. If you could take just a few minutes of your time to click on the link at the top of this email and fill out this survey it would be appreciated. The survey should take no more than 7-10 minutes to fill out.

Your participation in this study is voluntary. All of your answers and your identity will remain confidential and only used for statistical purposes. If you choose not to participate at all in this study, simply close the window. Additionally, you may end your participation in the survey at any time.

The last question will ask if you would like to participate in a follow up interview. Participants who agree to an interview will provide an email address at which they may be contacted for an interview. Participants for the interviews will be randomly selected. Just because you submit an email address, you may not be interviewed.

The time you take to fill out this survey is greatly appreciated. Should you have any questions please contact either Nathan Newman (nnewman@uni.edu) or Dr. Windee Weiss (windee.weiss@uni.edu), Dissertation Co-Chair.

The study has been approved by the Institutional Review Board of the University of Northern Iowa.
Follow Up Email #1

I recently sent you an email asking you to respond to a survey about your relationship with your athletic trainer and coach following an injury. If you have already taken the time to fill out the survey, I thank you for your time and answers. Responses to this survey is important to better understanding how athletes feel while recovering from injuries and how coaches and athletic trainers assist in this process.

This survey should take only about 7-10 minutes to complete. If you have not taken this survey yet, I would simply like to ask you to do just that. Click on this link and you will be taken to the survey.

https://uni.co1.qualtrics.com/SE/?SID=SV_cvdsW7sBuyvqnVX

I appreciate you taking the time to fill out this survey. Your experience following an athletic injury is unique and the answers you provide on this survey will better allow me to understand how injured athletes feel and how coaches and athletic trainers help athletes recover from those injuries.

Thanks,

Nate Newman

Doctoral Student
Follow up Email #2

I know college is a busy time. As a current graduate student in college, I realize that free time in between classes, studying, and athletics is very limited. I am hoping you will spend a little bit of that time completing a survey on how injured athletes are supported by coaches and athletic trainers. If you have already completed this survey, let me say thank you for doing so. I have gotten many responses so far, but I want to know what your experience was like following an injury. If you could click on this link and take the survey, it would be greatly appreciated.

https://uni.co1.qualtrics.com/SE/?SID=SV_cvdsW7sBuyvqnVX

Thank you for your participation. The information you will share is important to better understanding how injured athletes are able to recover with the help of their coaches and athletic trainers.

Nathan Newman
UNI Graduate Student
APPENDIX C

PARTICIPANT MATERIALS
Informed Consent Form

UNIVERSITY OF NORTHERN IOWA
HUMAN PARTICIPANTS REVIEW
INFORMED CONSENT

Project Title: Effects of Athletic Training Staff Relationships on Social Support for Injured Collegiate Athletes

Name of Investigators: Nathan Newman and Dr. Windee Weiss

Invitation to Participate: You are invited to participate in a research project conducted through the University of Northern Iowa. The University requires that you give your signed agreement to participate in this project. The following information is provided to help you made an informed decision about whether or not to participate.

Nature and Purpose: The purpose of the study is to describe how injured collegiate athletes perceive both their athletic trainer and coach’s relationship and support provided by these same individuals. This will be accomplished by having college athletes fill out a survey.

Explanation of Procedures: To complete the internet based survey, you will answer several specific questions about the nature of your injury, what type of support your athletic trainer and coach provided, the relationship between your athletic trainer and coach, and some basic questions about your sport and school at which you compete. The survey should take approximately 7-10 minutes to complete. For each question, select the answer that best describes you and your experience following a recent injury. To participate in this study you must have suffered an injury the past year that caused you to miss about 1 week or more of practices and/or games.

Discomfort and Risks: There are no foreseen risks greater than those of day-to-day life to you through your participation in this study.

Benefits and Compensation: Additionally there are no direct benefits to your participation in the study as well. However, it is hoped that the data collected in this study will allow for better understanding of factors that help an athlete recover successfully following an injury.

Confidentiality: Information obtained during this study which could identify you will be kept confidential. The summarized findings with no identifying information may be published in an academic journal or presented at a scholarly conference. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the internet by any third parties.
**Right to Refuse or Withdraw**: Your participation is completely voluntary. You are free to withdraw from participation at any time or to choose not to participate at all, and by doing so, you will not be penalized or lose benefits to which you are otherwise entitled.

**Questions**: If you have questions about the study you may contact or desire information in the future regarding your participation or the study generally, you can contact Nathan Newman at 563-588-7211 or the project investigator’s faculty advisor Dr. Windee Weiss in the Division of Athletic Training, University of Northern Iowa 319-273-2011. You can also contact the office of the IRB Administrator, Anita Gordon, University of Northern Iowa, at 319-273-6148, for answers to questions about rights of research participants and the participant review process.”

1. I am fully aware of the nature and extent of my participation in this project as stated above and the possible risks arising from it. I hereby agree to participate in this project. I am 18 years of age or older.

Yes  No
Survey Instrument

2. Have you suffered an injury in the past year that required you to miss at least one week or more of practices?

Yes   No

For the following questions you will be asked about how well you felt supported in a variety of ways following your injury. All of the questions should be answered thinking about your most recent injury that caused you to miss at least one week of practices and/or games.

**Athletic Trainer** refers to the certified athletic trainer that was most responsible for your rehabilitation and deciding on when you should return to play.

**Coach** refers to the head coach of your team.

3. While you were injured, did you have assurance that you were still a part of the team from your athletic trainer or coach?

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4. While you were injured, did you know that your athletic trainer or coach was willing to talk to you?

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5. While you were injured, did you feel that you were respected by your athletic trainer or coach?

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6. While you were injured, did you receive information on how to cope with your injury from your athletic trainer or injury?

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7. While you were injured, did you receive information on how to get help with your injury from your athletic trainer or coach?

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8. While you were injured, did you receive encouragement to talk when you were down from your athletic trainer or coach?

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9. While you were injured, did you receive encouragement to talk about any insecurities about your injury from your athletic trainer or coach?

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10. While you were injured, did you receive information on how similar injuries made other athletes feel from your athletic trainer or coach?

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11. While you were injured, did you receive information from your athletic trainer or coach on how other athletes dealt with similar injuries?

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12. How much disagreement was there between your athletic trainer and coach about your injury?

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13. How much personal friction was there between your athletic trainer and coach while decisions were being made about your injury?

<table>
<thead>
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<th>Amount of Personal Friction</th>
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14. How many disagreements over different ideas about your injury were there between your athletic trainer and coach?

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<tr>
<th>Number of Disagreements</th>
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15. While you were injured, did you know that your athletic trainer or coach were willing to talk to you when you were feeling down?

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16. While you were injured, did you feel accepted by your athletic trainer or coach?

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17. While you were injured, did you feel that your athletic trainer or coach were willing to talk you about insecurities caused by your injury?

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<th>From Athletic Trainer</th>
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18. While you were injured, did you receive reassurance from your athletic trainer or coach that it is normal to feel down?

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<th>From Athletic Trainer</th>
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19. While you were injured, did you receive help from your athletic trainer or coach to see optimism in the future?

<table>
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<th>None</th>
<th>A Lot</th>
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<td>From Athletic Trainer</td>
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<tr>
<td>From Coach</td>
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20. While you were injured, did you receive help to set realistic goals from your athletic trainer or coach?

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<tr>
<td>From Coach</td>
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21. While you were injured, did you receive reassurance that fears after an injury are normal from your athletic trainer or coach?

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<tbody>
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<td>From Athletic Trainer</td>
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<tr>
<td>From Coach</td>
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22. How much tension was there between your athletic trainer and coach when decisions were made about your injury?

<table>
<thead>
<tr>
<th>Amount of Tension</th>
<th>None</th>
<th>A Lot</th>
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23. How many differences about the care of your injury did your athletic trainer and coach have?

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<thead>
<tr>
<th>Differences about Care</th>
<th>None</th>
<th>A Lot</th>
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<td>1 2 3 4 5</td>
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24. How many differences of opinion about your injury did your athletic trainer and coach have?

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<thead>
<tr>
<th>Differences of Opinion</th>
<th>None</th>
<th>A Lot</th>
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25. While you were injured, did you receive encouragement to face the reality of your injury from your athletic trainer or coach?

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26. While you were injured, did you receive guidance to change behaviors that would negatively affect your injury from your athletic trainer or coach?

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27. While you were injured, did you receive information on how similar injuries made other athletes think from your athletic trainer or coach?

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28. While you were injured, did you receive an example for you to follow during rehabilitation from your athletic trainer or coach?

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29. Approximately how many days of practices and/or games did your injury cause you to miss?

|                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|
|                | About 1 week  | About 2 weeks  | About 1 month  | Longer than 1 month |

30. When did you sustain your injury?

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<td>Pre-Season</td>
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31. In what sport did you suffer this injury?

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<tbody>
<tr>
<td></td>
<td>Baseball</td>
<td>Basketball</td>
<td>Cross Country</td>
<td>Field Hockey</td>
<td>Football</td>
<td>Golf</td>
<td>Gymnastics</td>
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<td>Soccer</td>
<td>Lacrosse</td>
<td>Tennis</td>
<td>Track &amp; Field</td>
<td>Soccer</td>
<td>Swimming</td>
<td>Tennis</td>
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<td>Track &amp; Field</td>
<td>Volleyball</td>
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32. What level of competition do you participate in?
NCAA Division I  NCAA Division II  NCAA Division III

33. How would you describe your role on the team prior to the injury?
Starter  Non-Starter  Medical Hardship/Redshirt

34. During what year of eligibility did this injury occur?
1st Year  2nd Year  3rd Year  4th Year  5th Year

35. If your school offers athletic scholarships, what is your scholarship status?
Full Scholarship  Partial Scholarship  No Scholarship/Walk-on  N/A

36. Your Gender is
Male  Female

37. Your race is
African-American  Asian-American  Caucasian  Hispanic
Pacific Islander  Other _______