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# PERSONAL AND SITUATIONAL BASES FOR COACHES' CAUSAL ATTRIBUTIONS FOR THE RECOVERY OUTCOME OF INJURED ATHLETES

By

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A DISSERTATION

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# ABSTRACT

## PERSONAL AND SITUATIONAL BASES FOR COACHES' CAUSAL ATTRIBUTIONS FOR THE RECOVERY OUTCOME OF INJURED ATHLETES

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Coaches, despite their importance, continue to ignore injured athletes (Wiese-Bjornstal & Smith, 1993), their judgment remains a significant source of stress for injured athletes (Hardy, 1992), and their interactions with injured athletes' consist of a significant number of negative interactions (Udry et al., 1997). Jones and Nisbett (1972) argued that "there is a pervasive tendency for actors [i.e., athletes] to attribute their actions to situational requirements, whereas observers [i.e., coaches] tend to attribute the same actions to stable personal dispositions" (p. 80). They contend that differences in the information available to the actor and observer and differences between the two in the processing of the available information cause their dichotomous explanations for an outcome. However, altering coaches' perspectives to that of the athlete (Batson et al., 1997; Funder & Colvin, 1997; Gould & Sigall, 1977) and the coaches' empathic abilities (Davis, 1996) may change coaches' causal attributions to more closely reflect those of the injured athlete. Thus, the purpose of this study was to examine the effect of (a) coaches' dispositional empathy, (b) coaches' perspective-taking condition [Coach-as-Athlete (CA) or Coach-as-Coach (CC)], (c) recovery outcome (success vs. failure), (d) coaches' personal sport injury history, and (e) coaches' perception of the recovery's outcome and

the athlete's rehabilitation behavior on coaches' causal attributions for the athlete's recovery outcome.

One hundred fourteen high school and college coaches completed a demographic survey and the Interpersonal Reactivity Index (IRI; Davis, 1980). After reading each of the two descriptive recovery scenarios, participants then completed the Causal Dimension Scale II (CDSII; McAuley, Duncan, & Russell, 1992). Statistical analyses revealed that perspective-taking condition (Coach-as-Coach and Coach-as-Athlete), the recovery's outcome (success vs. failure), coaches' perception of the recovery's outcome, and coaches' perception of the athlete's rehabilitation behavior (compliant vs. non-compliant) had a significant affect on coaches' causal attributions. Discussion includes consideration of coaches' perception of injury severity and characteristics of the coach as sources of additional information when forming causal attributions. Suggestions and future directions for sport psychology researchers and practitioners, and coaches are also given.

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# DEDICATION

*To Mom and Dad.*

*Thank you for the wonderful life you have given me.*

ACKNOWLEDGMENTS

When I first arrived at Michigan State University as a Master's student, I was certain it was going to be a two-year stay. Eight years and a Ph.D. later, I leave this University with many fond memories, new colleagues, unexpected friends, David and Hunter "The Wonder Dog". Today I take a huge leap and dare to call my faculty mentors Marty Ewing, Deborah Feltz, and Crystal Branta, each of whom I admire greatly, my colleagues. Most especially, I have spent so many hours in Marty's care that I am not certain *"thank you"* can ever express my gratitude. As for Dr. Messe, I pray for your returned health. You were an immense help with this dissertation.

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David, you put up with so much from me. If I were you, I would have run away screaming a long time ago. You and Hunter "The Love Puppy" are my life. I love you more each day.

Mom and Dad, I do not have the words to express the love I have for you. My only hope is that I make you proud.

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# CHAPTER 1

# INTRODUCTION

## *Overview of the Problem*

More than 4 million Americans are seriously injured playing sports each year (Loudan, 1996). Powell and Barber-Foss' (1997) 3-year study reported that an average of 6,000 high school athletes were injured at least once each year, an average of 55.5% of the reported injuries occurred during practice sessions, and 73.5% of these injuries resulted in a time loss from practice of fewer than 8 days. Data from the National Collegiate Athletic Association's (NCAA; 2002) Injury Surveillance System (ISS) for 16 sports revealed the following overall injury rates per 1,000 college athlete exposures for the 2001-2002 season: football, 45 injuries; wrestling, 30.2 injuries; men's soccer, 24.2 injuries; women's soccer, 22.4 injuries; women's gymnastics, 20.1 injuries. [Note, "an athlete exposure is one athlete participating in one practice or game in which he or she is exposed to the possibility of athletic injury" NCAA (2003).] For 10 of the 16 sports analyzed by the ISS, more than 50% of the injuries occurred during practice. The most recent ISS data (NCAA, 2003) showed a reduction in practice and game injury rates per 1,000 athlete exposures for the 2002-2003 season: football, 37.1 injuries; wrestling, 31.7 injuries; men's soccer, 20.8 injuries; women's soccer, 18.1 injuries; women's gymnastics, 17.5 injuries. However, the percent of these injuries requiring restricted or missed participation for 7 or more days is alarming: football, 47%; wrestling, 52%; men's soccer, 29%; women's soccer, 37%; women's gymnastics, 70%. While injuries are an unfortunate yet common reality in sport, the psychological and emotional care of injured athletes is equally as important as their physical recovery.

A social support system, consisting of people who provide encouragement, advice, and a helping hand when an individual is down (Ray & Wiese-Bjornstal, 1999), has been recognized as a key factor in the treatment of athletic injuries (Brewer, Jeffers, Petitpas, & Van Raalte, 1994; Hardy, 1992; Heil, 1993; Petrie, 1992; Taylor & Taylor, 1997). While the sources and the type of support these sources provide may vary (Rosenfeld, Richman, & Hardy, 1989), it has been well documented that, for the injured athlete, social support from coaches is as much or more important than that received from family and friends (Ray & Wiese-Bjornstal, 1999; Taylor & Taylor, 1997; Wiese-Bjornstal & Smith, 1993). Despite recognizing coaches' importance and providing guidelines for coach-athlete interactions during athletes' recovery from injury (Hardy, Burke, & Crace, 1999; Heil, 1993; Henderson, 1999; Ray & Wiese-Bjornstal, 1999; Taylor & Taylor, 1997), two problems remain - coaches continue to pay little attention to injured athletes (Wiese-Bjornstal & Smith, 1993) and social evaluation by others (particularly coaches) is a major source of stress for injured athletes (Hardy, 1992).

While the behavior coaches exhibit toward injured athletes can easily be observed and documented, little is known about the information process through which coaches develop judgments about injured athletes that influence their behaviors towards and interactions with these athletes. More specifically, it is unclear how coaches link or attribute information from the situation and their personal experiences to their classification of cause for an athlete's recovery outcome. Furthermore, the perspective situation in which the coaches view an event (coach as the actor or the observer) may also affect their application of causal attributions to recovery outcomes. For sport psychology researchers and practitioners, coaches, and sportsmedicine practitioners, it is important to understand the function of attributions on the social situation of sport injury. Brawley (1984) contends that to ignore the attributions coaches apply to an event (i.e., the injury recovery outcome) "is to ignore the possibility of changing beliefs and/or circumstances that reduce the frequency of such negatively-valued behaviors" (p. 215) such as those mentioned above. Thus, the purpose of this study was to examine the influence of information variables within the coach (empathy, personal sport injury history, and perspective situation) and external to the coach (the athletes' rehabilitation behavior and the recovery outcome) on how coaches explain injury outcomes of athletes. How coaches explain the injury outcome may help explain the coach's behavior toward the athlete.

*Attribution Theory and Sources of Information for Causal Attributions*

According to Kelley (as cited in Weiner, 1992), a fundamental assumption of attribution theory is that humans are motivated to cognitively understand the causal structure of their environment. That is, we want to know why an event has happened and what caused its occurrence. In sport, it matters to coaches if athletes gave good effort when they were successful or if they won because the competition was easy. Furthermore, coaches use these explanations to place meaning to events that are relative to their past experiences and possibly to value the outcome or to socially-reward the athlete (Brawley, 1984).

Weiner and associates (Weiner, 1972, 1992; Weiner, Frieze, Kulka, Reed, Rest, & Rosenbaum, 1972; Weiner, Russell, & Lerman, 1978) assert that persons use four major causal attributions to explain success or failure in achievement-related settings: ability, effort, luck, and task difficulty. These elements can be placed along three dimensions; locus of causality (internal/external), stability (stable/unstable), and controllability

(controllable/ uncontrollable). First, the internal/external (locus of causality) dimension differentiates between causes that are within the person (i.e., ability, effort, and strength), and causes that are outside the person, (i.e., luck and task difficulty). Second, the stability dimension differentiates between causes that are temporary (i.e., luck and effort), and causes that are stable (i.e., ability and task difficulty). Third, the controllability dimension acknowledges that individuals can increase or decrease their expenditure (volitional or optional control) of internal and external attributes (i.e., laziness, industriousness, and tolerance).

Attribution research suggests individuals choose attributions to explain success and failure that are self-serving. Thus, injured athletes might explain a successful injury recovery as a result of their hard work (effort) and recovery failure as a result of bad luck. A coach, however, may explain the same recovery success and failure differently. For example, the coach may explain the successful recovery as a result of the injury being minor (task ease) and failure due to lack of the athlete's adherence to the rehabilitation protocol (effort). These differing explanations for the same event often result in differential expectancies and affect for the coach and athlete.

Extending Weiner and his colleagues' model for causal attributions, Jones and Nisbett (1972) argued that "there is a pervasive tendency for actors [i.e., athletes] to attribute their actions to situational requirements, whereas observers [i.e., coaches] tend to attribute the same actions to stable personal dispositions" (p. 80). They contend that differences in the information available to the actor and observer and differences between the two in the processing of the available information cause their dichotomous explanations for an outcome.

> For the observer, the actor's behavior is the figural stimulus against the ground of the situation. The actor's attention is focused outward toward situational cues rather than inward on his [sic] own behavior, and moreover, those situational cues are endowed with intrinsic properties that are seen to cause the actor's behavior toward them. Thus, for the observer the proximal cause of action is the actor, for the actor the proximal cause lies in the compelling qualities of the environment (Jones & Nisbett, 1972, p. 88).

Jones and Nisbett (1972) suggest categorizing the information available to the actor and observer to pinpoint the areas where discrepancies are likely to occur. Thus, the researchers have identified three types of information for the attribution process: effect data, cause data, and historical data. Effect data are of three broad types: (a) data about the nature of the act itself (what was done), (b) data about the environmental outcomes of the act (success or failure, recipient's response to the action, etc.), and (c) data about the actor's affective experiences (pleasure, pain, anger, etc.). Effect data can provide both the athlete and coach with equivalent information about the nature of the act and about environmental outcomes (i.e., recovery as success or failure). However, the coach can have no direct knowledge of the experiential portion of the act for the athlete. Thus, the coach's knowledge about the athlete's feelings is limited to inferences based on interpreting the athlete's gestures and direct communication about his/her feelings and the coach's personal experience with a similar situation. In either event, the coach's knowledge of the athlete's affective state is never direct, usually sketchy, and sometimes incorrect. However, the coach's personal experience with sport injuries and his/her

ability to take the perspective of the athlete may be important information the coach uses when making judgments about the athlete and the situation. Therefore, for this study, short, descriptive scenarios were carefully constructed to provide coaches with effect data. That is, the injury and its recovery outcome (success or failure) were described. How this information influenced coaches' causal attributions for the recovery outcome was under investigation. It was hypothesized that coaches who have experienced a moderate or major sport injury would attribute athletes' recovery outcomes to external, environmental factors more so than coaches who had none or minor sport injuries. Also, coaches whose sport injuries were career-ending would attribute athletes' recovery outcomes to external, environmental factors more so than coaches whose sport injuries were not career-ending.

Cause data (Jones & Nisbett, 1972) are broken into two broad types: (a) environmental causes (task difficulty, equipment failure), and (b) intention data (what the actor meant to do, effort). Under the category of perceived causes, there can be nearly equal knowledge of the environmental causes on the actor or an outcome. However, like the actor's affective experiences in the effect data, the observer can never directly know the actor's intentions. Thus, the coach must infer intentions from the athlete's expressive rehabilitation behavior (compliant or non-compliant) or from the logic of the situation. Therefore, as with affective states, the coaches' knowledge of athletes' intentions is indirect, and can be inferior and fallible. In sport situations, it is not unusual for coaches to be given or infer information about athletes' rehabilitation behavior. Thus, in this study, coaches were asked to determine if the athlete complied to the rehabilitation protocol with the intention that coaches would use this information to apply causal attributions for athletes' recovery outcomes. Coaches' beliefs that the athlete exhibited compliant rehabilitation behavior will elicit external causal explanations more so than belief that the athlete was non-compliant in rehabilitation.

Additional factors, such as the athlete's injury history, the coach's injury history, and timing of injury occurrence cannot be divorced from a given act or outcome. According to Jones and Nisbett (1972), "much of the discrepancy between the perspectives of the observer and actor arises from the differences between the observer's inferred history of every man [sic] and the concrete, individualized history of the specific actor" (p. 84). The attributer, be it the actor or observer, possesses three types of information that correspond to different causal possibilities. First, consensus information allows for judgment regarding if other actors behave in the same way to a given stimulus. Distinctive information tells the attributer if the actor, and other actors, behave in the same manner to other stimuli. Third, consistency information reveals if the actor, and other actors, behave in the same way to a given stimulus across time and situational contexts. To make the best causal inference possible, the attributer will use whatever information is available. However, the observer always lacks some of the distinctiveness and consistency information the actor possesses. With time, conversation, and investigation, the coach may know an athlete's personal history, but, again, knowing the affective experience of the athlete's historical data cannot be known with great accuracy. Therefore, athletes and coaches evaluate each outcome along a different scale of comparison; the coach compares the athlete with other athletes and the athlete refers to his/her previous actions. However, in the absence of information known by the athlete, coaches may substitute their own distinctive and consistency information (i.e., personal sport injury experiences, past experiences with injured athletes) when forming causal attributions. Thus, the coaches in this study provided information regarding their sport injury history, retirement from competitive sport, and other background information in hopes of identifying and categorizing such information and to examine how these factors may influence the causal attributions of coaches. While no hypotheses regarding the effect of these variables on coaches' causal attributions have been made for this study, exploratory analyses of their interaction with key variables of this study may be conducted to provide additional understanding of how coaches form causal attributions.

While the classic actor-observer effect (actors attribute their own behavior to external, situational causes, whereas observers attribute the behavior of others to internal dispositions) popularized by Jones and Nisbett (1972) is well-regarded in the research community, this effect has not been found uniformly. Monson and Snyder (1977) found that actors typically ascribe success *and* failure to ability and/or [long-term] effort (dispositional factors). Watson (1982) found that actors and observers do not consistently differ in their attributions to dispositional causes; rather, they typically differ only in their situational attributions. Also, the actor-observer effect can be eliminated or even reversed by a variety of factors, including salience (Storms, 1973; Taylor & Fiske, 1975). While the classic actor-observer effect was supported by their study, Robbins, Spranca, and Mendelsohn's (1996) additional findings show that the nature of actor-observer differences depend on the specific causal factor invoked, the individual's history in the situation (e.g., personal sport injury history and experiences with injured athletes), and individual differences among attributors. Wolfson's (1997) examination of competitive swimmer's attributions for competition outcomes also did not support the

classic actor-observer effect. Wolfson's findings were consistent with those of Mullen and Riordan's (1988) meta-analysis where internal attributions generally occurred for successful outcomes but external explanations were not consistently given for performance failures. Thus, when examining coaches' causal attributions for injured athletes' recovery outcomes, it is expected that the classic actor-observer effect will not be found. Instead, it is expected that coaches in both the actor and observer situations will attribute recovery outcomes to dispositional factors such as ability and [long-term] effort.

A basic mechanism for research findings in contention with the classic actor-observer effect like those aforementioned involves changing the point of view of the observer to that of the person performing the event (Funder & Colvin, 1997). That is, altering the coaches' perspective to that of the athlete may change coaches' causal ascriptions. According to Mead (1934), an individual's capacity to take on the role of other persons as a means of understanding how they view the world is an extremely important component in the developmental process of learning to live effectively in a highly social world. Projecting one's self (*imagine-self*) into the situation and then imagining how you would perceive the situation and how you would feel as a result has been shown to produce greater physiological arousal and emotion than maintaining a position of the observer (Stotland, 1969). Furthermore, Davis, Conklin, Smith, and Luce (1996) report that empirical evidence (e.g., Galper, 1976, Regan & Totten, 1975) has shown that perspective-taking makes the observer more likely to apply causal attributions that agree with the actor. Thus, active role-taking tends to reduce or eliminate the classic actor-observer effect. According to Stotland's interpretation, when placed in an imagine-

self condition, coaches' causal attributions are expected to be a result of their physiological and emotional reactions that arise from the projection-of-self into the situation. Thus, the causal attributions for recovery outcomes of coaches asked to take the perspective of the athlete (*imagine self*) are expected to be different from coaches who remain observers. Perspective-taking coaches should apply attributions that emphasize situational factors relative to dispositional ones.

In addition to perspective-taking, an individual's empathic ability may further alter causal attributions for an event. According to Levinson, Ponzetti, Jr., and Jorgensen (1999), the most comprehensive and inclusive definition of empathy is given by Davis (1996) who states that empathy is "a set of constructs having to do with the responses of one individual to the experiences of another. These [multidimensional] constructs specifically include the processes [i.e., perspective-taking and fantasy] taking place within the observer and the affective [i.e., empathic concern and personal distress] and non-affective [e.g., attributions] outcomes which result from those processes" (p. 12). Moreover, the process of empathy suggests a more *active* attempt by one individual (where the observer acts as a willing agent) to get "inside" the other, to reach out in some fashion through a deliberate intellectual effort. Within his model, Davis considers the importance of what the person brings to the situation, the thoughts that accompany and contribute to empathy, the emotions that are experienced during an empathic episode, as well as the behaviors that are likely to result from the experience of empathy.

Davis (1996) also asserts that each person has a tendency or disposition for empathy. "That is, there are people who in general experience emotional reactions to environmental events more readily or intensely and that they may simply react with

greater affect to the observed experiences of others as well" (Davis, 1996, pg. 65). Empirical evidence supports Davis' position. For example, Funder (1980) found that perspective as a function of the observers' levels of trait empathy influence causal attributions. Gould and Sigall (1977) also found that empathic observers attributed success to dispositional causes and failure to situational causes. Thus, this study assessed coaches' dispositional (trait) empathy and its relationship to coaches' causal attributions. It was expected that differences in coaches' disposition for empathy (high or low) would lead to differences in their causal attributions for athlete's recovery outcomes.

While research has demonstrated that empathy has an impact on the process of role-taking and causal attributions, what remains important to understanding the sport injury phenomenon is that once attributional judgments along the three causal dimensions are made, additional judgments can be made about the athlete by the coach. For example, and of great concern to those interested in the psychological and emotional care of injured athletes, judgments of responsibility and expectations for future performance can be derived from coaches' causal attributions. That is, estimates can be made about the athletes' ability and willingness to have engaged in alternative behaviors. Thus, the athlete is held responsible for the recovery outcome (success or failure) according to the degree that the athlete is seen to have deliberately and freely chosen a particular rehabilitation behavior (compliant or non-compliant rehabilitation behavior). The more a coach holds an athlete responsible for the athlete's negative actions, the greater the likelihood of negative affective (e.g., anger, disappointment) and behavioral reactions (e.g., exclusion, punishment) from the coach. Presumably, the more a coach is able to empathize with the athlete, the more similar their attributional perspectives will be

(Weiner, 1992). Furthermore, one's perspective-taking ability and the ability to experience the affective responses of another's distress increase the likelihood of helping that other person (Betancourt, 1990; Davis, 1996).

Although coaches' empathic ability is expected to be key to the differentiation in the perspective-taking and observer perspective situations, its interaction with coaches' injury histories may be crucial to understanding how coaches form causal attributions and expectancies for injured athletes and how they interact with and behave toward athletes with injuries. Thus, it was hypothesized that the stronger coaches' empathic ability, the more likely they are to ascribe environmental/situational reasons for recovery outcomes, particularly if the outcome is perceived to be a failure. However, it is also expected that strong empathic ability combined with coaches' personal sport injury history will have a stronger relationship with their ascriptions of environmental/situational reasoning for recovery outcomes than when only strong empathic ability is reported.

*Causal Attributions and Expectancy*

Weiner (1992) proposed an expectancy principle which states "changes in expectancy of success following an outcome are influenced by the perceived stability of the cause of the event" (p. 259). Three corollaries are also associated with this principle. First, if the outcome of an event is ascribed to a stable cause, then that outcome will be anticipated with increased certainty, or with an increased expectancy, in the future. Second, if the outcome of an event is ascribed to an unstable cause, then the certainty or expectancy of that outcome may be unchanged or the future may be anticipated to be different from the past. Finally, outcomes ascribed to stable causes are anticipated to be repeated in the future with a greater degree of certainty than are outcomes ascribed to unstable causes. Perceived success and failure at a task also affects expectancy. In his review of sport-related studies of attributions, Leith (1989) reported that research has shown that when an athlete perceives the successful outcome to be the result of stable factors rather than unstable factors, there is a greater expectancy for future success. However, when the athlete believed the negative outcome resulted from stable factors rather than unstable factors, there is a lower expectancy for future success. While these findings are of actor's evaluation of themselves, similar responses about expectancy may be found when coaches evaluate their athletes. So, success at recovery due to ability or long-term effort will produce greater anticipation for future success. On the other hand, failure at recovery due to the same attributions will strengthen coaches' beliefs that the athlete will fail at subsequent rehabilitations. However, what is interesting about Weiner's (1986, 1992) assertion about stability being the primary associate to expectancies is that additional empirical research regarding this correlate has not been found. In fact, many of the attribution researchers (e.g., Graham, 1990; McAuley & Duncan, 1990; McAuley, Russell, & Gross, 1983) continue to cite Weiner's assertion regarding the association of stability with expectancy. However, in the absence of additional empirical information to substantiate or debate Weiner's assertion and Leith's (1989) findings regarding the effect of outcome on expectancy beliefs, no hypothesis can be made regarding this factor for this study. Instead, it is an interesting research question that will be explored.

*Need for the Study*

Sport research has shown that coaches are important sources of social support for injured athletes (e.g., Rosenfeld, Richman, & Hardy, 1989; Taylor & Taylor, 1997; Udry, Gould, Bridges, & Tuffey, 1997). Coaches, despite their importance, continue to ignore injured athletes (Wiese-Bjornstal & Smith, 1993) and their judgment remains a significant source of stress for injured athletes (Hardy, 1992). Udry et al. (1997) found that injured athletes' interactions with coaches also consist of a significant number of negative interactions. Examining the perspective taken by coaches as a mediator of causal attributions for injury recovery outcomes may identify coaches' perceptions of injured athletes that govern their thoughts and behaviors toward these athletes. This study provides additional light on the controversy involving the divergent (or congruent) perceptions of causality of actors and observers. By examining the relationship between antecedent information (i.e., empathic ability, personal injury history, and athletes' rehabilitation behavior) and perspective-taking condition (actor or observer), situational and personal factors that influence causal ascriptions may be identified. Identifying influential factors that reduce "blaming" the athlete for recovery failures *and* encourage helping and caring behaviors in coaches may be used to strengthen the relationship between coaches and their injured athlete, encourage greater proactive recovery behavior by athletes, and create a more positive psychological and emotional recovery from injury. Thus, information from this study may be used by sport psychology practitioners working with injured athletes, coaches, athletic trainers, and coaches' education program designers.

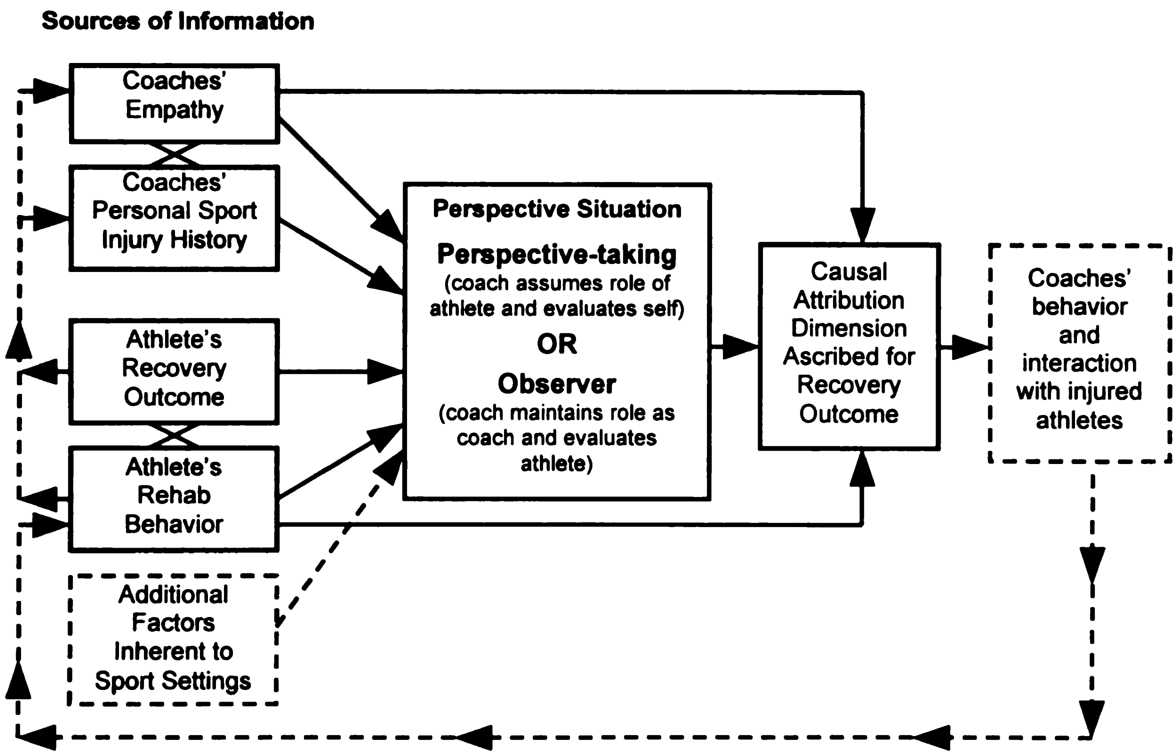


*Figure 1.* A working model for understanding coaches' causal attributions for injury recovery outcomes and behavior/interactions with athletes with sport injuries.

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Note: Variables in the dotted boxes and dotted lines were not included in this study's research design.

Wiese-Bjornstal, Smith, Shaffer, and Morrey's (1998) integrated model of response to sport injury lists a multitude of personal and situational factors that may interact to effect an athlete's *(or a coach's)* response to a sport injury. Developing a single research study that investigates all the variables within this model is nearly impossible. Besides, some variables may be more salient for coaches' response to injured athletes than others. Thus, this study selected antecedent information believed to be important moderating factors for coaches' causal attributions. Furthermore, while the thoughts and behaviors of coaches toward injured athletes were not directly tested in this

study, attribution theorists strongly assert that causal attributions can govern behaviors – a position illustrated in the working model for this study (see Figure 1). While models serve as useful diagrams of a psychological phenomenon, it is important that sport psychology researchers continue to statistically test and analyze the relevance of factors believed to influence specific social relationships like that of the coach and injured athlete.

*Purpose of the Study and Exploratory, Working Model for Coaches' Causal Attributions for Recovery Outcomes*

While the actor-observer perspective (Jones & Nisbett, 1972) provides a framework for understanding the process for arriving at divergent explanations for the causes of behavior, little is known of how coaches form causal attributions about injured athletes or to what they attribute athletes' recovery outcomes. Thus, an exploratory information-processing model was developed for this study (see Figure 1). This working model describes the relationship of the variables under investigation and the expectations for this study. This model suggests that coaches' empathy, personal sport injury history, and other factors inherent to sport settings (e.g., time of season, athlete's importance to the team, type of injury) will influence their causal attributions for athletes' recovery outcomes. Coaches' causal attributions for recovery outcomes will also result from additional information about the athletes' behavior toward the rehabilitation protocol (compliant vs. non-compliant). Furthermore, when the coach is asked to assume the role as either coach-as-athlete (CA) (coach evaluates him/herself as the athlete) or coach-as-coach (CC) (coach evaluates another as the athlete), differences in their causal attributions, a perspective-taking-observer effect, may exist. Lastly, coaches' interactions with and

behaviors toward injured athletes will be influenced by coaches' causal attributions for the athletes' recovery outcome. Thus, the purpose of this study was to examine the effect of (a) coaches' dispositional empathy, (b) coaches' perspective-taking condition [ Coach-as-Athlete (CA) or Coach-as-Coach (CC)], (c) recovery outcome (success vs. failure), (d) coaches' personal sport injury history, and (e) coaches' perception of the recovery's outcome and the athlete's rehabilitation behavior on coaches' causal attributions for the athlete's recovery outcome.

*Research Hypotheses and Research Question*

Considering this review of attribution theory and the sources of information for causal attributions, Weiner's (1992) principles and postulates, empirical findings regarding the effect of empathy on causal attributions, and the model described in Figure 1, a number of hypotheses and one research question were made for this study.

$H_1$: Coaches in the coach-as-athlete (CA) perspective situation will apply causal explanations for recovery outcomes that are different than coaches in the coach-as-coach (CC) perspective situation.

$H_2$: There will be a main effect of empathy on the causal dimension ascriptions. Coaches with high empathy subscale scores will attribute recovery outcomes to external, environmental factors more than coaches with low empathy subscale scores.

$H_3$: Within perspective-taking conditions, CA and CC coaches with high empathy subscale scores will attribute recovery outcomes to external, environmental factors more than CA and CC coaches with low empathy subscale scores.

$H_4$: CA and CC coaches with a history of major sport injuries will attribute recovery outcomes to external, environmental factors more than CA and CC coaches with a history of minor sport injuries.

$H_5$: CA and CC coaches having experienced a career-ending sport injury will attribute recovery outcomes to external, environmental factors more than CA and CC coaches not having experienced a career-ending injury.

$H_6$: Within perspective-taking conditions, coaches' empathy scores and injury history will interact on the causal dimensions. Coaches with high empathy subscale scores and having experienced a major sport injury(ies) will attribute recovery outcomes to external, environmental factors more than coaches with low empathy subscale scores and having experienced minor sport injury(ies).

$H_7$: For CA and CC coaches, successful recovery outcomes will elicit different causal explanations by coaches in comparison to when the recovery outcome is failure.

$H_8$: There will be a main effect of rehabilitation behavior on the causal dimension ascriptions by coaches. Compliant rehabilitation behavior will elicit external causal explanations by coaches more so than non-compliant rehabilitation behavior.

$H_9$: For CA and CC coaches, compliant rehabilitation behavior will elicit external causal explanations by coaches more so than non-compliant rehabilitation behavior.

$H_{10}$: For CA and CC coaches, rehabilitation behavior and recovery outcome will interact on the causal dimensions ascribed by coaches. Compliant rehabilitation behavior and successful recovery outcome will elicit causal attributions by CA and CC coaches that are different from the non-compliant rehabilitation behavior and recovery failure outcome condition.

$RQ_1$: Which dimension of causality is primarily associated with expectancy?

*Operational Definitions*

The following terms are defined for clarity of hypotheses and for the construction of the descriptive scenarios used for the causal attribution instrument. These definitions are presented and referred to for research design purpose only. They are not for participant use and referral.

Empathic concern: The tendency to experience feelings of sympathy and compassion for unfortunate others (Davis, 1996).

Fantasy: The tendency to imaginatively transpose oneself into fictional situations (Davis, 1996).

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| Major Injury: | Any injury that causes a player to be removed from the remainder of the current session (practice or game) and does not return to activity for more than 21 days (Powell & Barber-Foss, 1997). |
| Minor Injury: | Any injury that causes a player to be removed from the remainder of the current session (practice or game) where the player returns to activity within seven days (Powell & Barber-Foss, 1997). |
| Moderate Injury: | Any injury that causes a player to be removed from the remainder of the current session (practice or game) where the player does not return to activity for 8 to 21 days (Powell & Barber-Foss, 1997). |
| Personal Distress: | The tendency to experience distress and discomfort in response to extreme distress in others (Davis, 1996). |
| Perspective-Taking: | The tendency to spontaneously adopt the psychological point of view of others in everyday life (Davis, 1996). |

*Limitations/Delimitations*

A delimitation to this investigation is that coaches in this study reside predominantly in a mid-west state in the United States and coach high school or college age athletes. Thus, the results of this study may not generalize to other populations.

This study is limited by not having direct knowledge of *how* coaches come to judge the severity of their sport injuries. The saliency of coaches' personal injury history to their causal attributions is bound to participants' recollection and report of their sport injuries. Coaches' assignment of severity to their sport injuries is not controlled for in this study and may not match the severity categories defined for this study. Factors such as characteristics related to the injury (e.g., type of injury, quality of treatment, time away from sport, amount of pain) and knowledge/experience gained since the injury (e.g., additional/reoccurring injuries, coaching experience with injured players) may have changed coaches' original evaluation of their sport injuries over time. For example, today coaches' may deemphasize the significance and severity of an injury they previously thought was a big deal. Also, due to the number of years between when they were an athlete and today, coaches may have difficulty recalling sport injuries, especially if they were believed to be minor.

Another limitation of this study was the order that participants completed the survey instruments. The order of the descriptive recovery scenarios were varied where the successful recovery scenario was placed before the failed recovery scenario in the survey packet and vice versa. The additional questionnaires were strategically ordered in the survey set to reduce response bias (see Procedures in Chapter 3). The survey packets were then randomly distributed to the participants. However, it is unknown if participants completed the questionnaires in the order in which the principal investigator placed them in the packet. Also, if coaches completed the surveys in an alternative order, it is unknown how their actions may have affected the results of this study.

CHAPTER 2

LITERATURE REVIEW

### *Introduction*

It is indisputable that coaches play an important role in sport. Sport psychology research has provided outstanding support for and documentation of the important role coaches play in the psychological and emotional welfare of their athletes (e.g., Abraham & Collins, 1998; Bloom, Durand-Bush, Schinke, & Salmela, 1998; Horn & Harris, 1996; Poczwardowski, Barott, & Peregoy, 2002; Smith & Smoll, 1996).

In the area of sport injury research, examinations of the role and availability of social support for injured athletes have been popular (e.g., Gould, Udry, Bridges, & Beck, 1997; Lewis, 1999; Richman, Rosenfeld, & Hardy, 1993; Udry. Gould, Bridges, & Tuffy, 1997). From these reports regarding social support and sport injury, a plethora of suggestions for the psychological and emotional care of injured athletes to coaches has also been made available in the sport psychology literature (e.g., Hardy, Burke, & Crace, 1999; Heil, 1993; Taylor & Taylor, 1997; Yukelson & Heil, 1998). However, two problems continue to remain prevalent in sport – coaches continue to pay little attention to injured athletes (Wiese-Bjornstal & Smith, 1993) and social evaluation by others (particularly coaches) is a major source of stress for injured athletes (Hardy, 1992). Also, in a study examining the types of social support injured athletes' perceived to be available to them, Lewis (1999) found that injured athletes infrequently mentioned their coaches as a source for social support in comparison to other persons they frequently encounter in their lives. When coaxed with additional probing questions during in-depth

interviews, Lewis concluded that athletes were hesitant to discuss their coaches and, when they did, athletes' responses more often reflected the findings of Hardy (1992).

Furthermore, a mid-1990's investigative report of professional sport coaches' responses to their players' sport injuries that appeared in an episode of ESPN's *Outside the Lines* provided cause for alarm and further empirical investigation. In the report, some coaches of professional sports described injured players as "useless" and stated that they preferred injured athletes remain separate from the team. One coach announced that he did not allow injured athletes into the locker room or to attend team meetings.

It is hopeful that the reprehensible thoughts and behaviors exhibited toward injured players by coaches of professional sports are not the norm. However, no empirical studies directly assessing coaches' perceptions of sport injuries and injured athletes have been conducted to date. Also, no studies examining coaches' behaviors toward and interactions with injured athletes have been conducted. While evidence of anti-social behavior toward injured athletes by coaches has been alluded to in previous research (e.g., Lewis, 1999; Udry, 1997) and given the plethora of suggestions to coaches for dealing with the psychological and emotional care of injured athletes, it is surprising that coaches' perceptions of sport injuries has not been directly examined – hence, the inspiration for this current study. Trying to understand the coaches' views of injured athletes is a challenge. One approach would be to start with how coaches explain athletes' successful or unsuccessful rehabilitation of injuries. It is expected that factors contributing to coaches' explanations would be their level of dispositional (trait) empathy and their ability to see the injury from the athlete's perspective. Thus, the following is a review of literature pertinent to understanding the relationship of the actor-observer effect

(Jones & Nisbett, 1972), perspective-taking, and empathy with coaches' causal attributions for athletes' recovery outcomes.

*Attribution Theory and The Actor-Observer Effect in Sport Research*

Attribution theory asserts that persons use four major causal attributions to explain success or failure in achievement-related settings: ability, effort, luck, and task difficulty (Weiner, 1972). These elements can be placed along three dimensions – locus of causality (internal or external), stability (stable or unstable), and controllability (controllable or uncontrollable) (Weiner, 1992). Jones and Nisbett (1972) also assert that there is a fundamental difference in how actors in and observers of a situation apply causality for the event. The *classic actor-observer effect* described by Jones and Nisbett states that actors attribute causes for an event to external factors while observers will attribute causes for the same event to internal factors of the actor. While there have been many pivotal studies of attribution theory in sport (e.g., Bukowski, Jr. & Moore, 1980; Leith, 1989; McAuley, Duncan, & Russell, 1992; McAuley & Gross, 1983; Rejeski & Brawley, 1983; Roberts & Pascuzzi, 1979), an in-depth review of their contributions to sport research would constitute a chapter of its own. Therefore, in this section a review of current attribution research and the actor-observer effect as applied to sport and sport injury research is given here. Of particular interest is the effect of perceived outcomes (success/win or failure/loss) on causal attributions in performance settings.

In his examination of causal attributions for basketball performances by players and coaches, Lefebvre (1978) set out to place players and coaches' attributions for sport performances within the four quadrants describing the relationship of the locus of causality and stability dimensions (internal/stable, internal/unstable, external/stable, external/unstable). In doing so, Lefebvre found differences in causal ascriptions between successful and unsuccessful performances. More specifically, ability and effort (internal factors) were the major attributions given by coaches and players for successful sport performances. However, for performances that resemble failure, lack of effort (an internal, unstable factor) was the only causal ascription significantly applied by both players and coaches. Lack of ability, task difficulty, and bad luck did not significantly differentiate for the failure outcome. Thus, this study did not find support for the classic actor-observer effect. While coaches applied internal factors for both the successful and failed performances (in agreement with the classic observer effect), players also applied internal factors for successful and unsuccessful performances (in opposition to the classic actor effect).

Van Raalte, Brewer, and Petitpas (1995) examined the actor-observer bias in sport through two experiments. The first experiment involved 165 undergraduate students instructed to imagine themselves as either the coach or athlete in the scenario described. They found that participants in the coach perspective-taking condition were more likely than those in the athlete perspective-taking condition to indicate that an athlete's bad-mouthing the coach was due to internal characteristics of the athlete and that not hustling in practice was due to stable characteristics of the athlete. These findings reflect the classic actor-observer effect.

For their second experiment, Van Raalte and colleagues (1995) had 42 athletes and 22 coaches review the same two scenarios used in the first experiment. "True" coaches, like those in the coach perspective-taking condition of the first experiment, made significantly more internal attributions for the athlete badmouthing the coach and for not hustling in practice, than did "true" athletes. These findings, again, agreed with the actor-observer effect. However, it should be noted that in these studies the scenarios for which participants gave causal attributions were negative in nature (badmouthing the coach and not hustling in practice). Other studies that examined the actor-observer bias in sport did not achieve similar findings.

While Van Raalte and colleagues (1995) found support for the classic actor-observer effect for negative events, Wolfson's (1997) results were in opposition. Thirty-four finalists in a British Swimming Grand Prix completed an attribution scale designed for Wolfson's study. Swimmers who had completed their final race and changed clothes volunteered to complete two attribution questionnaires [one evaluating the swimmer's own performance (actor condition) and the other evaluating their fellow competitors' performance (observer condition)]. The results did not lend support for the actor-observer effect. Instead, swimmers were more likely to apply more internal cause for their performance than for their fellow competitors.

The Wolfson (1997) study raises two concerns regarding the measurement of causal attributions. First, in her write-up, Wolfson assumed the swimmers were successful simply because they were finalists in a major, national swimming competition rather than directly assessing the athletes' perception of their performance. While Wolfson may be correct in her assumption, it is equally, if not more, feasible to assume that swimmers who did not win their final race evaluated their performance as a loss or failure. The researcher also did not report the race outcome of the study participants or make relevant statistical analyses. So, if the participants in the study held negative thoughts about their performance, the classic actor effect found by Wolfson may be due to swimmers' perceived unsuccessful performance and may not have been found for athletes who held positive thoughts about their performance. The second issue with Wolfson's findings concerns the measurement of causal attributions. Wolfson reports that the attribution instrument was designed specifically for her study, but does not offer any discussion about the validity and reliability of the scale. Further discussion about psychometric concerns for measuring causal attributions will be discussed in more detail later in this section.

The classic actor-observer effect (Jones & Nisbett, 1972) has not been clearly supported in sport research. However, it is apparent that in sport settings the individuals' perceptions of the outcome as either a success/positive or failure/negative affect causal ascriptions given by both actors and observers. Successful, positive performance outcomes were more likely to inspire internal causal ascriptions by both actors and observers. Negative, failed performances resulted in an increase in the variability of causal ascriptions across causal dimensions. In fact, Mullen and Riordan's (1988) meta-analysis concluded that while internal attributions generally occurred for successful outcomes, external explanations were not consistently given for failure in studies of performance. Therefore, for studies such as this dissertation that examine causal attributions given for both a successful and failed scenario, it should be expected that greater variability in responses would occur for the failed recovery scenario rather than for the successful recovery scenario. However, it is expected that participants in both the coach-as-coach and coach-as-athlete perspective-taking conditions will apply internal causal attributions to the cause of the successful recovery outcome, thus agreeing with the classic observer effect but in opposition to the classic actor effect.

*Sport Injury Research - Attribution Theory and The Actor-Observer Effect*

In the area of sport injury, very little research that applies attribution theory to examine differences in athletes' perceptions has been conducted. In fact, only three studies have been found for this literature review. No published studies examining coaches' causal attributions for the occurrence or recovery outcome of sport injuries have been found. So, in this section, a review of the three studies and their implications for this dissertation are discussed.

Grove, Hanrahan, and Stewart (1990) contend that attribution research in sport has focused on the relationship between objective competitive outcomes (win/loss) and causal ascriptions and between subjective outcomes (success/failure) and causal ascriptions. However, studies of objective and subjective outcomes such as injury recovery are rarely found in the sport psychology literature. To examine the effect of speed of recovery (fast or slow) on causal attributions, Grove et al.'s study involved two hundred seventy-six undergraduate physical education students who were presented with two hypothetical injury events in sport. Participants were instructed to vividly imagine each injury event happening to themselves (an imagine-self perspective-taking condition) and state what the single most likely cause of the speed of recovery would be if it happened to them. Participants then answered a 5-item survey instrument to determine the degree to which the cause fell along the causal dimensions stated for attribution theory (locus of causality, stability, controllability, globality, and intentionality).

Grove and colleagues (1990) found that the causes of the slow recovery were consistently perceived to be less stable, controllable, global, and intentional than causes of the rapid recovery. Also, causes of the slow recovery were perceived as more internal than causes for the rapid recovery. Thus, for an induced actor perspective-taking condition, the rapid recovery situation was more likely to invoke external, situational causal ascriptions. Therefore, partial support for the classic actor effect for only the rapid recovery outcome was found. However, when recovery was perceived to be slow, perspective-taking actors were more likely to apply causal ascriptions that were internal to the athlete (in opposition to the classic actor effect).

The pioneering research findings of Grove et al. (1990) regarding the relationship between injury recovery outcomes and causal ascriptions are an important contribution to the sport, sport injury, and sport psychology literature. However, like Wolfson (1997), their methods for measuring attributions along the dimensions of causality are subject to critique. Single-item measures of a theoretical construct have been cautioned in social science research. In their defense, Grove et al. support their 1-item per causal dimension scale by stating "similar methods have been used by other investigators to assess the same causal dimensions (Peterson, 1992; Russell, 1982)" (p. 108). Although their instrument's construct may be validated by review from other experts in the field and/or structured after similar instruments, statistical support for the reliability of the measure cannot be given. Also, sport injury research is young in the field of sport psychology and the application of attribution theory as a vehicle for studying sport injury has been, to this date, non-existent. While previous attribution research conducted in sport lends information for forming research hypotheses and questions, its application to new, unresearched sport phenomenon like sport injury leaves room for finding differences than those found for sport research involving the more popular objective competitive outcomes (win/loss). Therefore, it is important that researchers make their best effort to use valid and reliable measurement tools that can resist critique and increase the strength for predicting and concluding the relationship between variables under examination. Thus, the use of measures such as the Causal Dimension Scale II (CDSII; McAuley, Duncan, & Russell, 1992) becomes an important consideration to the experimental design of studies such as this dissertation. The CDSII, which was used for this study, measures causal attributions with three items per dimension of causality and has been found to be a reliable instrument for sport studies (Biddle & Hanrahan, 1998; McAuley et al., 1992). The CDSII is discussed in greater detail in the next chapter of this dissertation.

Laubach, Brewer, Van Raalte, and Petitpas' (1996) study provided additional support for Grove et al.'s (1990) research findings. Laubach and his colleagues examined the relationship of causal ascriptions for recovery from knee surgery to recovery rate (fast or slow). Thirty-four recreational and competitive athletes rated the cause for the recovery they stated on the CDSII. Like Grove et al., Laubach and collaborators found that participants who perceived themselves as recovering rapidly made more stable, personally controllable, and externally controllable attributions for the cause of the recovery than participants who perceived themselves as recovering slowly. Also, participants designated by their physical therapist or athletic trainer as recovering rapidly tended to attribute their rehabilitation progress to more internal and personally controllable factors than participants identified as recovering slowly.

In a follow-up study, Brewer, Cornelius, Van Raalte et al. (2000) investigated the relevance of causal ascriptions for recovery to sport injury rehab outcomes. This study replication examined the causal attributions for fast and slow recoveries for 80 patients who underwent anterior cruciate ligament (ACL) reconstructive surgery. Once again, findings regarding the relationship between causal dimensions rating on the CDSII and recovery rate reflected the findings of Laubach et al. (1996) and Grove et al. (1990). Perceptions of faster recovery by the patients were associated with higher scores on stability and personal control dimensions.

The attribution research in sport injury recovery does not completely support Jones and Nisbett's (1972) classic actor effect (actors as attributing cause to external factors). Rather, similar to general sport attribution research, sport injury attribution research indicates that the actors' bias is affected by its interaction with actors' perception of the recovery outcome (as fast or slow in progression). Thus, the classic actor effect is more often found when individuals perceive their recovery to be slow, but not when the recovery is rapid. However, it should be noted that the injury studies reviewed here examined only the actors' perception of their recovery outcome. No known studies examining coaches' (observers') causal ascriptions for athletes' (actors) sport injury recovery outcome have been published at the time of this literature review. However, Sellars and Biddle (1994) provide some insight into what may be expected of coaches' attributions for their athletes' performances.

Sellars and Biddle (1994) examined the attributional style of twenty-four coaches regarding events involving their athletes. Coaches were asked to recall an occasion that happened to their athletes that corresponded to the positive and negative outcomes described in the scenarios presented in the study. Using the Sport Attributional Style Scale (SASS; Hanrahan, Grove, & Hattie, 1989), for each scenario, coaches wrote the likely cause of the outcome and then rated the cause on attribution dimensions of locus of causality, stability, controllability, globality, and intentionality. Results showed that coaches gave attributions for positive outcomes that were more stable and intentional than for negative outcomes. While differences in coaches' assignment of the locus of causality between positive and negative sport events were not found, Sellars and Biddle's finding provide reasonable cause to expect differences in coaches' causal ascriptions due to factors such as perceived recovery outcome in future research studies.

Given this review of the literature, it was clear that the causal ascriptions individuals apply to a sport event or sport injury recovery was affected by persons' perceptions of the outcome of the event (win/loss, success/failure, fast/slow recovery). Also, Jones and Nisbett's (1972) classic actor-observer effect was affected by the outcome of the event. While the observer effect has been found for both positive and negative sport outcomes, the actor effect was not consistently found in the area of sport and sport injury. Instead, in general sport and sport injury research, actors attributed observer-like causes for their successful performance outcomes (applied internal causes to the event). However, for unsuccessful performances and recoveries, actors were more likely to apply external causal attributions – thus, resembling the classic actor effect. Thus, similar findings were expected in this study.

*Empathy, Perspective-Taking, and The Actor-Observer Effect*

Witnessing another's emotional state prompts the observer to covertly, internally, imitate the other's emotional cues (e.g., tensing our muscles when witnessing someone under stress). Thus, empathy suggests a more "active" attempt by one individual to *get inside the other*, to reach out in some fashion through a deliberate intellectual effort (Davis, 1996). Therefore, the result of this process is the production of similar, though weaker, reactions in the observer. Also, this sharing of emotions between target and observer is believed to foster a better understanding of the actor.

This initial definition of empathy as a function of perspective-taking is broad and does not contribute to distinguishing empathy from related, but separate emotions. However, it has been long held that empathy may best be considered a set of related constructs including both emotional and non-emotional components (Davis, 1983, 1996; Hoffman, 1977). According to Davis (1983, 1996), empathy is best defined as a multidimensional construct composed of the cognitive processes taking place within the observer (i.e., perspective-taking) and the affective (i.e., empathic concern and personal distress) and non-affective (e.g., attributions, helping behaviors) outcomes that result from these processes. Furthermore, four components of empathy that are of special interest to this study have also been defined by Davis (1983). Empathic concern refers to an individual's tendency to experience feelings of warmth, compassion, and concern for others. Personal distress refers to the feelings of anxiety, distress, and unease individuals experience in tense or crisis situations. Thus, empathic concern and personal distress are the emotional reactions to the observed experiences of others. Individuals' tendency to imagine or *fantasize* themselves in the place of another person or character has been identified as a component of empathy that is more emotional (affective) in nature. Perspective-taking refers to the spontaneous tendency of individuals to adopt the psychological perspective of other people or to entertain the view of others. Perspective-taking has been identified as the non-emotional, cognitive portion of empathy.

Jones and Nisbett (1972) noted that the more an observer is set to empathize with the actor, the more similar their attributional perspectives will be. Thus, perspective-taking, the cognitive, non-emotional component of empathy, has been a popular research variable for examining differences in causal ascriptions. In their investigation of Jones and Nisbett's assertion, Regan and Totten (1975) had female undergraduate students watch an unscripted "get acquainted" conversation between two female students where one student (Margaret) was designated as the target. After watching the videotaped dyadic interaction, the participants were asked to rate Margaret on four dimensions (friendliness, talkativeness, nervousness, and dominance), and to indicate for each dimension the degree to which that behavior was caused by her personal characteristics and the degree to which it was caused by characteristics of the situation. Regan and Totten found that participants given instructions to empathize with the stimulus person (Margaret) in the videotape made more situational causal attributions for Margaret's behavior than participants given non-empathic (observer-like) instructions.

Galper (1976) provided additional evidence for the effectiveness of perspective-taking (empathy) on causal attributions. Here, 36 male undergraduate students were divided into two observer groups where in each condition they read a story that vividly described a young man's heroic rescue of a baby from a burning building. One group of observers, the "empathy" condition, was instructed to "Put themselves in the place of" the heroic rescuer while reading the story. The other group, the "social perception" condition, was instructed to "picture the event clearly." Participants then answered an open-ended question to explain why the young man saved the child rather than act to secure his own safety. Finally, participants rated the extent to which the young man's behavior was due to (a) personal and (b) situational characteristics.

Galper (1976) found that participants in the "empathy" condition placed greater emphasis on environmental, situational factors (as opposed to personal characteristics of the actor) to explain the young man's behavior than did the "social perception" group. Participants in the "social perception" group displayed the typical observer bias (of Jones & Nisbett, 1972), rating personal factors as significantly more important than situational factors. Thus, Galper's results demonstrated that changing the perspective of observers to reflect that of the actor can elicit "actor-like" causal attributions from observers.

Extending Regan and Totten's (1975) and Galper's (1976) findings, Gould and Sigall (1977) proposed that empathic observers and actors are functionally equivalent. Thus, they predicted that empathic observers (compared to their non-empathic counterparts) would make causal attributions that have typically been found for actors. That is, empathic observers would attribute an actor's success to dispositional causes, but an actor's failure to situational causes. Gould and Sigall had forty-eight female students view a short videotape depicting a male student engaged in a "get acquainted" conversation with a female student. Prior to viewing the videotape, participants received written instructions directing them to either empathize with or carefully observe the male on the tape. Participants were also given feedback concerning the kind of impression the male made on the female in the video where half of the participants were led to believe the male had made a good impression and the other half of the participants were led to believe the opposite. Participants then responded on an 11-point scale anchored at the extremes "Dispositional Factors: Characteristics of the Male" (1) to "Situational Factors: Characteristics of the Environment and/or Characteristics of the Female" (11) to the impression the male made in the encounter. A significant difference for locus of causality between the empathy group and the observer group was not found (no main effect of empathy). However, assignment of locus of causality differed for the outcome (success or failure). Furthermore, the interaction of perspective-taking condition (empathy or observer) with outcome (success or failure) had a significant effect on locus of causality ascriptions. That is, as predicted, Gould and Sigall found that instructions to empathize led to dispositional assignment of locus of causality for success and situational assignment of locus of cause for failure, while standard observation instructions resulted in dispositional causal ascriptions regardless of the outcome. Thus, Gould and Sigall's findings also support the position that differential information processing may sufficiently account for the effects of outcome on causal attributions.

While the findings of early research in the combined areas of attribution theory, actor-observer bias, and empathy, such as that of Regan and Totten (1975), Galper (1976), and Gould and Sigall (1977), were ground breaking and pivotal to the field, a number of dilemmas exist with regard to the construction of this study. First, these research studies equate empathy simply with perspective-taking. However, as discussed earlier in this literature review, perspective-taking is merely the cognitive, non-emotional component of a more complex construct known as empathy.

Second, these studies assessed situational empathy and its effect on causal attributions. Participants' tendency (or disposition) for perspective-taking (and the other dimensions of empathy) were not directly measured, which is under investigation in this study. Moreover, some investigators have identified situations in which actors make more dispositional attributions than observers and other conditions in which observers make more dispositional attributions than actors (e.g., Ross, Bierbrauer, & Polly, 1974;

Snyder, 1976; Snyder, Stephan, & Rosenfield, 1976 as cited in Monson & Snyder, 1977). Therefore, predictions that participants would apply causal ascriptions similarly across different situations cannot be accurately made. Thus, research findings cannot be generalized beyond the situation presented to the participants in these studies.

Thirdly, studies like Regan and Totten (1975), Galper (1976), and Gould and Sigall (1977) measured the effect of perspective-taking on only the locus of causality (LOC) dimension of attribution. While such studies help future researchers form research hypotheses for LOC, they add little predictive value for the stability and controllability dimensions of causal attributions. Also, these studies used only one item to measure LOC.

Next, confusion about the effect of empathy (or more specifically, perspective-taking) on causal ascriptions remains. While Gould and Sigall's (1977) findings support Jones and Nisbett's (1972) classic actor-observer effect, it is only the main effect of the situation (success or failure) and the interaction of perspective-taking condition (empathy or observer) with situation that effected participants' assignment of LOC. Perspective-taking alone did not have a main effect on causal ascriptions. Also, it is important to note that while Gould and Sigall found that instructions to empathize led to dispositional attributions for success and situational attributions for failure, Monson and Snyder (1977) found that for success *and* failure actors (the research manipulation equivalent of the perspective-taker) typically attribute to themselves more responsibility (dispositional factors) for their own behaviors and the consequences of their actions than do observers. Thus, Monson and Snyder's report disputes the classic actor-observer effect popularized by Jones and Nisbett.

Lastly, most studies that examine the effect of perspective-taking (operationalized as empathy) on the actor-observer bias (e.g., Betancourt, 1990; Davis, 1983; Galper, 1976; Gould & Sigall, 1977; Regan & Totten, 1975) employed perspective-taking instructional sets that used some version of *imagine-the-other* instructions. However, Batson, Early, and Salvarani (1997) remind us of Stotland's (1969) early findings that there are two different ways of perceiving the other's situation, each having a specific instruction set and having differing analytical consequences. In an *imagine other* instruction set, participants are challenged to imagine how the other person perceives the situation and how that person feels as a result. On the other hand, the *imagine self* condition invites persons to imagine how they would perceive the situation if they were in the other person's position and how they would feel as a result. Here, in the *imagine self* condition, it is likely that coaches would rely on their personal history with and knowledge about sport injuries when imagining themselves in a sport injury recovery scenario. Stotland (1969) and Batson et al. (1997) found that both the *imagine other* and *imagine self* instruction sets led to more physiological arousal and self-reported emotion than the objective (observer-like) condition. However, while the *imagine other* group exhibited greater vasoconstriction [evidence that they were reacting to the feelings they perceived the model to be experiencing (empathy)], the *imagine self* group experienced greater palmar sweat and reported feeling more tension and nervousness [evidence of self-oriented emotional reactions that were not tied to the model (empathy and distress)]. Davis' (1996) review of the effectiveness of perspective-taking instructional sets in other research studies (e.g., Davis, 1983; Eisenberg, Fabes, Schaller, Miller et al., 1991; Toi & Batson, 1982) concur with the findings of Stotland and Batson et al. Thus, when designing studies examining the actor-observer bias where perspective-taking instructions are utilized to invoke empathy, the use of *imagine self* instructions better encourages observers to become more functionally equivalent to actors than *imagine other* instructions. It should be noted that in this study, *imagine self* instructions have been utilized to create the perspective-taking condition.

*Dispositional Empathy*

Levinson, Ponzetti, Jr., and Jorgensen (1999) have identified three levels of analysis for understanding empathy. The first level of analysis considers empathy in the context of the evolution of altruism (i.e., unselfish regard for devotion to the welfare of others). The second level of analysis focuses on empathy as a stable disposition (or trait) that varies across individuals. The third level of analysis focuses on the situational variables that promote or discourage empathic responses. While each level of analysis of empathy has its own unique set of literature, it is the second level, dispositional empathy, that was measured in this study. The evaluation of dispositional empathy as it relates to causal attributions and sport have not yet been applied (or found in my extensive literature search), thus creating a fundamental problem when trying to provide empirical support for this study's conceptual model (see Figure 1) and the research hypotheses regarding the moderating role of empathy on coaches' causal ascriptions.

Betancourt (1990) asserts that although certain attributions may directly influence behavior, "the most important influence of attributions is thought to be through a cognition (attribution) → emotional sequence" (p. 576). In the study of attribution theory, perspective-taking, the cognitive portion of empathy, has been heralded as the vehicle to modify the classic actor-observer effect – that is, to change observer causal attributions to more closely reflect those of the actor. However, as in the aforementioned empirical studies, perspective-taking has been utilized as a situation variable and has not been assessed for the effect of dispositional (trait) empathy on the actor-observer bias. While only one known study in sport research (i.e., Bump, 1986) has examined the role of dispositional empathy of coaches on communication with their athletes, the effect of dispositional empathy has yet to be applied to attribution research in such a manner proposed in this current study. Thus, a fundamental problem has been created for when trying to provide empirical support for this study's conceptual model (see Figure 1) and the research hypotheses regarding the role of dispositional empathy on coaches' causal ascriptions. However, dispositional empathy has been widely applied to research examining its effect on helping behavior, the "end product" of this study's conceptual model.

Coke, Batson, and McDavis' (1978) two-stage model of empathy-mediated helping states that (a) taking the perspective of a person in need increases one's empathic emotional response, and (b) helping is mediated by empathic concern and personal distress (the *emotional* components of empathy). Archer, Diaz-Loving, Gollwitzer, Davis, and Foushee (1981) found that a dispositional tendency to experience emotional empathy was related to the emotional reactions of both empathic concern and personal distress. Thus, evidence supports the view that individual variations in empathic tendencies (dispositional empathy) may be an important factor influencing emotional reactions and helping (Davis, 1983).

Davis (1983) pretested 158 undergraduate psychology students' dispositional empathy using the Interpersonal Reactivity Index (IRI; Davis, 1980, 1983). After being

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given imagine-self or observer instructions, participants listened to a tape that described the story of an orphaned college senior's effort to complete her studies while supporting her two younger siblings and her continued struggle to keep her siblings out of foster care. After listening to the tape, participants completed a mood measure, a questionnaire that served as a check on the perspective-taking instructional set manipulation, and a survey assessing participants' emotional state. Participants then read a letter from the fictitious "Katie Banks" asking study participants to help her by donating their time to baby-sit, do chores, and provide transportation. Participants were instructed to write down their contact information (e.g., name, telephone number) and the number of hours they were willing to volunteer for Katie, then seal their response form in an envelope and place it in a box.

Davis (1983) found that perspective-taking did not have a significant association with helping behavior. However, participants' sex had a significant main effect on helping behavior – females were more likely to offer help than males. Neither dispositional perspective-taking or empathic concern had a significant main effect on helping. However, the interactions of dispositional perspective-taking with the perspective-taking condition (imagine self or observer) and dispositional empathic concern with the perspective-taking condition significantly predicted helping behavior. More specifically, the interaction of dispositional perspective-taking with the perspective-taking condition had no effect on observers' helping behavior, but had a significant facilitative effect on those in the perspective-taking condition. The interaction of dispositional empathic concern with the perspective-taking condition yielded a different behavioral pattern. Dispositional empathic concern had a significant positive relation with helping for those given observer instructions, but no effect of dispositional empathic concern on participants in the imagine self condition was found. Finally, while feelings of sympathy and concern (empathic concern) were significantly related to helping, feelings of personal distress were not related.

Coke et al.'s (1978) two-stage model described empathic concern and personal distress as mediators of helping behavior. However, Davis (1983) found that while empathic concern predicted helping, personal distress was not related to helping behavior. Thus, a problem for understanding the role of the emotional components of empathy (empathic concern and personal distress) is created. Batson and his colleagues' (e.g., Baston, 1991, 1998; Batson & Coke, 1981; Toi & Batson, 1982) continued work in this area provide additional understanding of the role of emotional empathy in helping behavior. Batson, Early, and Salvarani (1997) asserts that empathic concern seems to reflect "an *other*-oriented emotional response congruent with the perceived plight of the person in need; it taps feelings for the other" (p. 752). Thus, empathic concern is assumed to influence helping positively, regardless of whether the potential helper has an easy way out of the situation without helping. Personal distress, on the other hand, reflects "a *self*-oriented aversion emotional response; it taps more direct feelings of discomfort evoked by witnessing the plight of the other" (p. 752). Thus, in contrast to empathic concern, feeling upset or disturbed because of another's need or suffering (personal distress) would increase helping only when escape from the situation is difficult. Therefore, for the purpose of predicting helping behavior, when escape from the distressful situation is easy, persons low in dispositional personal distress may be more inclined to help a person in need in comparison to persons with a tendency to experience high levels of personal distress. Thus, Storms' (1973) and Robins, Spranca, and Mendelsohn's (1996) assertion regarding the saliency of the event to the study's participants becomes important to the construction of experimental situations (e.g., descriptive stories and scenarios) when examining the role of empathy on causal ascriptions and helping.

This review of the situational and dispositional empathy literature stimulates three implications for this research study. First, neither situational nor dispositional perspective-taking alone is expected to be a strong enough predictor of causal attributions, expectancy, or helping behavior (i.e., how coaches interact with their injured athletes). This supports my thoughts about the possible number of antecedent sources of information and their exhaustive number of interactions that may act on coaches when they are forming causal ascriptions, expectancy judgments, and decisions for interacting with injured athletes (see Figure 1). Therefore, it is important that exploratory examinations of the interactive relationship of dispositional empathy scores with variables that are intuitively relevant to how coaches may differ in causal attributions and expectancy (e.g., perspective-taking condition, the athlete's recovery outcome, the coaches' personal sport injury history, coaching level) be conducted and have been hypothesized for this study.

Second, instructions to participants for perspective-taking should utilize *imagine-self* coaxing. Imagine-self instructions have been found to produce greater physiological arousal and emotion than imagine-other and observer instructional sets. It stands to reason, then, that imagine-self instructions would evoke coaches' personal history with and knowledge about sport injuries (their own and experiences with their athletes) when responding to the descriptive scenarios of this study. It should be noted that in this study imagine-self instructions were given to coaches in both perspective-taking conditions. That is, coaches in the actor-like condition were asked to imagine themselves as the athlete in the scenario. Coaches in the observer-like condition were instructed to imagine themselves as the coach in the scenario. While, the direction of the interaction of coaches' personal injury history (e.g., none, major, career-ending) with dispositional empathy on causal attributions and expectancy is unknown and not hypothesized, differences between groups were expected and evaluated in this study.

Finally, the saliency and authenticity of the scenario described to the study's participants must be considered when constructing the descriptive scenarios in the experiment. A finding of a positive correlation of empathic concern and a negative correlation of personal distress with helping behavior suggests that the relevance of the situation to coaches may effect their causal attributions and expectancy. Particularly, it is important to choose injuries for the scenarios that popularly occur in a variety of sport settings so that coaches have the opportunity to easily imagine the injury occurring to themselves or their athletes. The recovery protocol described in the scenario should also be realistic to what is oftentimes prescribed by physicians, athletic trainers, and physical therapists in sport settings. Also, recall from this literature review that Batson and his colleagues (e.g., Batson, 1991; Batson & Coke, 1981; Toi & Batson, 1982) have identified the interaction of level of personal distress with the ease for avoiding a situation to be associated with the likelihood of individuals to help. Therefore, it stands to reason that the more authentic and salient the descriptive scenarios are to the coaches in the study coupled with the imagine-self instructions for both perspective-taking conditions may reduce the ease for fleeing the situation for this study's participants. Thus, for this study, improving the saliency and authenticity of sport injury scenarios is believed to increase the likelihood for obtaining causal attributions and judgments for expectancy that would naturally occur in the field.

*Sex/Gender Differences in Empathy*

An impression long held by psychologists and the population at large is that females are more empathic than males (Eisenberg & Lennon, 1983). Despite this stereotype, the data pertaining to this issue are complex (Eisenberg, 2000). Early reviews on this matter (Block, 1976; Maccoby & Jacklin, 1974) found that no reliable gender difference in empathy existed. However, these reviews used a broad definition of empathy and included studies that examined emotional reactions, social sensitivity, role-taking, and accuracy in person perception. Hoffman (1977) differentiated between measures of empathy in which empathy was defined as an emotional response and studies in which researchers measured role-taking or social sensitivity. When empathy was defined in this way, females scored higher on empathy than males. However, in Eisenberg and Lennon's (1983) review, gender differences in empathy appeared to depend on how empathy is operationalized. For paper-and-pencil self-report measures of empathy, such as the Interpersonal Reactivity Index (IRI; Davis, 1980, 1983), gender differences were found. For picture/story indices, small gender differences were found. For other measures such as facial/gestural and physiological measures, no gender differences were found. However it should also be noted that Eisenberg, Fabes, Schaller, Miller et al. (1991) later found gender differences on physiological measures of empathy. Gender differences favoring females as being more empathic than males may be due to different patterns of socialization. However, Lennon and Eisenberg (1987) contend that "researchers have not controlled the demand characteristics associated with self-report questionnaires, nor have many differentiated among the various possible emotional responses that people may experience in reaction to another's affect. Thus, the reason for the large gender difference in responses to self-report empathy questionnaires is unclear, especially given the lack of such a large gender difference for other indices of empathy" (p. 200). Thus, because the IRI, a self-report measure of empathy that has shown gender differences in scores (e.g., Davis, 1983, Davis, Mitchell, Hall et al., 1999; Trobst, Collins, & Embree, 1994) was used in this study, gender differences (females as higher in empathy than males) were expected and evaluated for differences in causal attributions.

*Summary and Concluding Thoughts*

This review of the pertinent literature has led to several expectations for this study. First, recovery outcomes are expected to affect coaches' causal ascriptions. For the successful injury recovery scenario, coaches in both the coach-as-coach (CC) and coach-as-athlete (CA) perspective-taking conditions are expected to apply internal, personal attributions to the cause of the athlete's recovery outcome. Differences in the application of causal attributions are expected for the failed recovery scenario. Coaches in the CC condition are expected to exhibit the classic observer bias, thus applying causal attributions for recovery failure that are internal to the athlete. For the failure recovery scenario, coaches in the CA condition are expected to report causal attributions that are more situational and external to the athlete, thus finding the classic actor bias.

Second, dispositional perspective-taking will be associated with coaches' causal ascriptions and expectancy. Coaches' tendency for experiencing empathic concern and personal distress will be related to coaches behaviors toward and interactions with injured athletes [the un-measured portion of the conceptual model designed for this study (see Figure 1)]. Dispositional personal distress may also be associated with coaches' expectancy for similar recovery outcomes.

Third, dispositional empathy is expected to be associated to coaches causal attributions, however, its predictive power may not be strong enough to explain with certainty coaches causal ascriptions for recovery outcomes and expectancy. Exploratory examination of dispositional empathy's interaction with other factors measured in this study may provide additional understanding of the dynamics of coaches' perceptions of sport injuries.

Lastly, gender differences in dispositional empathy are expected. Statistical analyses examining the effect of gender biases on coaches' causal attributions are also conducted and discussed.

CHAPTER 3

# METHODS

## *Participants*

To protect the rights of participants, University guidelines for the use of humans as subjects will be followed (see Appendix A). One hundred eighteen coaches returned questionnaire sets. Four participants were excluded from the study because their questionnaire sets were incomplete. Therefore, the study's sample consisted of 114 males ($N = 45$) and females ($N = 69$) coaching at various sport levels and maintaining head coach ($N = 73$) or assistant coach ($N = 39$) positions (see Table 1 for details). Two participants did not reveal their coaching position. Coaches' ages ranged from 21 to 75 years ($M = 35.79$, $SD = 10.87$). Participants also varied in their number of years of experience as a coach, ranging from 1 to 40 years ($M = 11.87$, $SD = 9.48$). Participants represented an array of sports including, but not limited to, basketball, track and field, softball, soccer, baseball, swimming and diving, field hockey, gymnastics, tennis, and volleyball. Coaches in this study were predominantly European American/Caucasian ($N = 96$). Coaches of African American/Black ($N = 10$), Hispanic/Latino(a) ($N = 3$), and Asian American ($N = 1$) ethnicities were also represented in this sample. Four participants did not reveal their ethnic identity.

Participants in this study provided information regarding their personal history with sport injuries. A majority (76.3%) of the participants in this study described themselves as having a moderate ($N = 53$) or major ($N = 34$) sport injury while an athlete in their sport. Fifty-two coaches (45.6%) who described their sport injury as moderate or

Table 1

*Description of Participants' Coaching Position, and Sex by Sport Level*

| | Sport Level* | | |
|---|---|---|---|
| | Collegiate ($N$) | High School ($N$) | Total |
| Head | 27 | 46 | 73 |
| Assistant | 21 | 18 | 39 |
| Male | 26 | 19 | 45 |
| Female | 22 | 45 | 67 |

* Missing two cases

major also reported having continued effects from the injury. Injuries that were described as moderate or major by coaches in the study included, but were not limited to, strained muscles, torn cartilage, torn meniscus, Achilles tendonitis, stress fractures and broken bones, chipped bones in joints, concussions, torn and reconstructed anterior cruciate ligament (ACL), plantar fascitis, and dislocated joints. The remaining 23.7% of the respondents reported their sport injury as either minor ($N$ = 17) or having no sport injury ($N$ = 10) as an athlete. Injuries described as minor included a broken wrist, hyper-extended knee, shin splints, broken toes and fingers, tendonitis, ankle sprains, and hamstring pulls. Four coaches who described their sport injuries as minor also reported experiencing continued effects from the injury. See Table 2 for additional descriptions of participants' sport injury history.

Table 2

*Frequency of Coaches' Sport Injury by Severity, Sport Level, Coaching Position, and Sex*

| | Severity of Injury | | | | |
|---|---|---|---|---|---|
| | None (N) | Minor (N) | Moderate (N) | Major (N) | Total |
| Total Coaches | 10 | 17 | 53 | 34 | 114 |
| Coaches continuing to have effects from their injury | | 5 | 25 | 22 | 52 |
| *Sport Level | | | | | |
| Collegiate | 1 | 6 | 20 | 21 | 48 |
| High School | 9 | 11 | 31 | 13 | 64 |
| **Coaching Position | | | | | |
| Head Coach | 6 | 11 | 36 | 20 | 73 |
| Assistant Coach | 4 | 6 | 16 | 14 | 40 |
| Sex of Coach | | | | | |
| Female | 8 | 11 | 29 | 21 | 69 |
| Male | 2 | 6 | 24 | 13 | 45 |

* Missing two cases; ** Missing one case

The majority of coaches in this study also had at least one athlete who experienced an injury severe enough to cause the athlete to miss several weeks of practice and/or competition ($N = 90$; 78.9%). Participants provided information about the availability of treatment for their athletes' sport injuries at their institution. Eighty-three coaches stated that their institution provides their athletes with access to a physician for sport injuries (college, $N = 46$; high school, $N = 37$). However, only 57 coaches reported that their institution pays some or all of the cost of athletes' visits to physicians for sport injuries (college, $N = 44$; high school, $N = 13$). An athletic trainer was available at least twice per week to 105 of the coaches' athletes (college, $N = 47$; high school, $N = 58$). Ninety-nine coaches (college, $N = 42$; high school, $N = 57$) reported that they have been trained and certified in CPR and First Aid. However, a number of these coaches ($n = 50$)

were also in need of renewing their CPR and First Aid certifications (college, $N = 20$; high school, $N = 30$).

*Survey Instruments*

*Demographic Survey.* The demographic survey (see Appendix B) provided general descriptive information such as age, ethnicity, and sex of the participants in this study. Participants also provided non-intrusive information describing their own sport injury history (i.e., recall of occurrence and recovery from injury that invoked vivid memory, continuing effects of sport injuries), their experience as a coach (i.e., total number of years coaching, sport(s) currently coaching, competition level of sport team coaching), and the availability of medical treatment for their athletes. To assess their personal injury history, coaches were asked to state the most significant sport-related injury they experienced as an athlete, self-describe the injury as minor, moderate, or major, disclose if the injury ended their sport career, and describe any continuing effects from the injury. The decision to have coaches self-describe the severity of their injuries rather than by the researcher is based on an argument put forth by Russell (1982). Russell argues that when researchers apply descriptive codes to participant data a fundamental research error may be created. That is, coaches' assignment of a particular severity rating for their injury may not be perceived in the same way by the researchers, thus its severity may be over- or underestimated by researchers. For this study, it is the cognitive *process* by which coaches form judgments about injured athletes that is under investigation. Thus, it is the coaches' perception of their injuries, rather than the injuries' clinical assessment or researcher's judgment, and how coaches use this information to make causal attributions and expectancies regarding injured athletes that is under investigation. Descriptive statistical analyses (means, standard deviations, cross tabulations) were conducted to provide a narrative of the study's participants. Coaches' demographic variables (e.g., sex, coaching level, injury history) were also analyzed as a predictor of their causal attributions.

*The Interpersonal Reactivity Index (IRI).* The Interpersonal Reactivity Index (IRI; Davis, 1980) (see Appendix C) was used to measure trait empathy. The 28-item scale is divided into four subscales: perspective-taking (PT), fantasy (FS), empathic concern (EC), and personal distress (PD). Each subscale is measured using 7 items with responses along a 5-point likert scale ranging from 0 (does not describe me well) to 4 (describes me very well). Scores for each subscale are totaled for a score ranging from 0 to 28. IRI items corresponding with each subscale for scoring were as follows: FS, items 1, 5, 7, 12, 16, 23, and 26; EC, items 2, 4, 9, 14, 18, 20, and 22; PT, items 3, 8, 11, 15, 21, 25, and 28; and PD, items 6, 10, 13, 17, 19, 24, and 27. Items 3, 4, 7, 12, 13, 14, 15, 18, and 19 were reverse scored. Because the IRI is a measure of four distinct elements of empathy, the subscale scores should not be totaled to form a total trait score. Therefore, analysis of empathy required individual assessment of each subscale.

Coefficient alpha (Cronbach, 1951) was calculated to determine the internal consistency of the four subscales of the IRI. All values were within the acceptable range (according to Batson, Fultz, & Schoenrade, 1987; Davis, 1980; R. DeShon, personal communication, November 5, 2002; Eisenberg & Miller, 1987) for the four scales of the IRI (FS, $\alpha = .79$; EC, $\alpha = .72$; PT, $\alpha = .78$; PD, $\alpha = .74$). These values were also consistent with Davis' (1980) scale assessment who reported coefficient alphas ranging from .71 to .77 for the four scales of the IRI. As with most empathy measures, Davis

(1983) reported significant sex differences existed for each scale of the IRI, with females scoring higher than males on each of the four scales. Similar sex differences in empathy scores were expected for this study.

*The Descriptive Injury Scenarios.* Using the guidelines provided by Roberts and Pascuzzi (1979), two scenarios describing a sport injury and a different sport injury recovery outcome were presented to the study's participants (see Appendices D and E). To make certain the sport injuries described in the scenarios were realistic and classified as moderate to major in severity, the scenarios were reviewed by two NATA certified head athletic trainers at a NCAA Division I university and two educational sport psychologists. Upon their review, the sport injuries were declared to be realistic and moderate to major in their severity. Additional suggestions from the reviewers led to the inclusion of information regarding the athlete's performance on sport skills upon return to practice in the scenarios. The rationale for the inclusion of return to practice performance information in the scenarios was that while an athlete can be cleared to return to sport by medical and athletic training personnel once an injury has sufficiently healed according to clinical standards, coaches were more likely to judge recovery outcomes based on the athletes' performance on sport skills and tasks when they return to practice.

The scenarios varied according to (a) the perspective situation (CA or CC), and (b) athlete's recovery outcome (success or failure). Thus, the first scenario described an injury to ligaments in which surgery was conducted for their repair, rehabilitation exercises were given to the athlete, the athlete returned to sport participation on schedule, and the athlete did not experience pain when performing sport skills. This injury scenario's recovery outcome was considered to be a success by the principal investigator, two NATA certified athletic trainers, and two educational sport psychologists. The second scenario described "a severe, 3rd degree ankle sprain" for which a physician recommended a recovery protocol. However, when returned to sport practice, the athlete favored the ankle and had difficulty performing sport skills. This injury scenario's recovery outcome was considered to be a failure by the principal investigator, two NATA certified athletic trainers, and two educational sport psychologists.

Researchers often assume that study participants will describe success or failure according to whether there was a win or loss in some achievement or competitive event. Brawley (1984) contends that this assumption has created a methodological problem. That is, *perceptions* of how an actor fared have been ignored and only causal ascriptions for *absolute* outcomes (win/loss) have been examined. Thus, the methodological problem becomes one of not knowing whether coaches in this study were responding to only the absolute outcome (recovery success or failure) or a personal achievement criterion (effort toward rehabilitation), or a combination of the two. For this study, it was hopeful that coaches would attend to both types of information when assigning causal attributions. So, three items act as "checks" for agreement between the principal investigator and participants' perception of each scenario's content. After reading each scenario, participants were asked to determine (a) the severity of the injury (minor, moderate, or major), (b) the athlete's rehabilitation behavior (compliant or non-compliant), and (c) the recovery's outcome (success or failure). Analysis of the effects of these "check" items on coaches' causal attributions serve to explain further the dynamics of sport injury under investigation in this study.

*The Causal Dimension Scale II (CDSII).* The Causal Dimension Scale II (CDSII) (McAuley, Duncan, & Russell, 1992) (see Appendices D and E) was used to assess coaches' attributions for the cause of recovery outcomes (success or failure) along the three causal dimensions of attribution theory [locus of causality (LOC), stability (ST), and controllability (personal and external)]. While three causal dimensions are identified according to attribution theory (locus of causality, stability, and controllability), the CDSII consists of four scales in which the controllability dimension was separated into two scales [personal (PC) and external (EXC) control]. After reading each scenario, participants were instructed to list "the single most likely cause" of the recovery outcome (see Appendices D and E) in a box provided on the questionnaire form. The CDSII's 12-item semantic differential scale followed the box in which coaches listed a cause for the recovery outcome. The total score for each causal dimension was obtained by summing the items delegated to each dimension. CDSII items corresponding with each scale for scoring were as follows: locus of causality, items 1, 6, and 9; stability, items 3, 7, and 11; personal control, items 2, 4, and 10; and external control, items 5, 8, 12.

Coefficient alpha (Cronbach, 1951) was calculated to determine the internal consistency of the four scales. The internal consistencies for this study's sample were as follows: locus of causality, $\alpha = .89$; stability, $\alpha = .66$; personal control, $\alpha = .88$, external control, $\alpha = .89$. These reliability scores were greater or consistent with the average internal consistencies across four studies conducted by the instrument's creators (McAuley et al., 1992) who reported the following: locus of causality, $\alpha = .67$; stability, $\alpha = .67$; personal control, $\alpha = .79$, external control, $\alpha = .82$.

*Additional Items.* After completing the CDSII, coaches responded to five additional items for each injury scenario (see Appendices D and E). First, participants identified the person "most responsible for the athlete's recovery outcome" by choosing one of the multiple choice selections [i.e., Me – the coach or Me – the athlete (depending on the perspective situation taken), the coach or the athlete (depending on the perspective situation taken), the physician, the athletic trainer, the parents, or other]. This item may provide additional insight into the perceived responsibility of persons involved in the care of injured athletes.

Second, one expectancy item to assess coaches' beliefs about the likelihood of a similar recovery outcome in the future was given. This item was reviewed and its content validity confirmed by two experts (D. Feltz, personal communication, November 27, 2002; B. Weiner, personal communication, November 19, 2002). Coaches were asked to respond to this item along a 10-point scale ranging from 0 (not at all likely) to 9 (extremely likely). Analyses involving this expectancy item served to answer the research question put forth in this study.

Third, as a perspective-taking check item, coaches were asked to rate how easily they were able to place themselves in the descriptive scenario along a 10-point scale ranging from 0 (not at all easy) to 9 (extremely easy). Finally, for each injury scenario, coaches reported the sport in which they imagined the athlete participated. Participants in the observer situation also revealed the sex of the athlete they imagined in the injury scenario. These final three items were included as possible contributors to interpretation of results.

*Procedure*

Coaches who participated in this study were recruited via attendance at a sport conference or meeting ($N = 43$) and coaches and athletic directors who identified possible participants ($N = 57$). The principal investigator attended and distributed surveys to coaches attending a sports leadership conference and a coaches' meeting. Data collection opportunities were lost when two coaches' education workshops were cancelled. Consent forms and survey sets were mailed to coaches residing in the continental United States. A reminder postcard (see Appendix G) followed the original mailing to coaches who had not returned the surveys within 12-15 days. Forty-six percent of the coaches who received surveys by mail returned consent forms and surveys in the return-addressed stamped envelope provided by the principal investigator. Coaches who returned surveys by mail were representative of 12 states and a variety of sports. Twenty-three of the surveys distributed by high school athletic directors were completed and returned. The low response rate from these coaches was most probably due to the distribution of surveys late in the academic calendar year.

University guidelines for the use of human subjects were adhered to at all times. Participants were asked to read and sign a consent form (see Appendix A). After reading and signing the consent form, participants completed the questionnaires and returned both the consent form and all survey instruments to the principal investigator either at the sport conference or meeting or by mail in the return addressed stamped envelope provided with the consent form and survey instruments. To maintain confidentiality, high school coaches who received questionnaire sets from their athletic director were instructed to seal their responses in the attached return addressed envelope before returning it to their athletic director for pick-up by the principal investigator. Approximately 20 to 30 minutes were needed to complete the questionnaires.

Participants were randomly assigned to either the perspective-taking ($N = 57$) or observer situation ($N = 57$). To reduce order effects, participants were also randomly assigned to the order of exposure to the injury scenarios. Fifty-three participants received a survey set in which the failure scenario was placed before the success scenario. The remaining sixty-one participants received a survey set in which the success scenario was placed before the failure scenario. Thus, the order of the survey set was as follows: (1) consent form, (2) IRI, (3) injury scenario with CDSII and additional items for each of the scenarios (i.e., read scenario #1 and complete survey items; read scenario #2 and complete survey), (4) the demographics questionnaire, and (5) a "thank you" page (see Appendix F). To reduce the possibility of another order effect, the demographics questionnaire was placed last in the survey set. That is, it was feared that coaches' active recollection of their personal sport injury history and other demographic items prior to completing the IRI and CDSII could confound coaches' responses. However, the order in which coaches chose to complete the survey packet could not be controlled. It was simply hoped and assumed that coaches completed the surveys in the order they were presented in the packet.

Instructions to participants for completing the attribution survey were adapted from Hanrahan, Grove, and Hattie (1989). In the observer situation, coaches were instructed to maintain their role as the coach of the athlete recovering from the injury in each injury scenario of the CDSII (see Appendix D). Instructions to observers included "Read each event and <u>vividly imagine it happening to ONE OF YOUR ATHLETES</u>." In the perspective-taking situation, coaches were instructed to take the role of the athlete recovering from the injury in each injury scenario of the CDSII (see Appendix E). Instructions to actors included "Read each event and vividly imagine it happening to YOU."

*Statistical Analysis*

The demographic survey was analyzed to provide descriptive information about the study participants. Categorization of coaches' sport injury history was also delineated from these data and included as an independent variable for additional statistical analysis of causal ascriptions. As previously discussed, coaches self-described their sport injuries as minor, moderate, or major and indicated if the injury was or was not career-ending. Coaches' self-descriptions of their injuries were categorized into two injury history groups: (a) none/minor or moderate/major, and (b) career-ending or not career-ending.

Coaches were identified as high, low, or neutral empathic for each subscale of the Interpersonal Reactivity Index (IRI). Each subscale of the IRI consists of seven items, thus, scores on each subscale can range from 0 to 28. The following classifications were given to scale scores: 0 – 11 = low empathy, 12 – 16 = neutral empathy, 17 – 28 = high empathy. A series of statistical analyses involving IRI scale group scores' effect on causal dimension scale scores were conducted in accordance to the hypotheses stated for this study.

Gender differences for coaches' empathy scores were expected (Davis, 1983; Eisenberg, 2000) and found for this sample on two scales of the IRI (fantasy and empathic concern) (see Table 3). While no research hypothesis or question regarding sex differences in empathy scores were made for this study, additional statistical analyses (e.g., descriptive, analysis of variance, cross tabs) relevant to this study's working model (see Figure 1) and research hypotheses were conducted to provide additional understanding of the phenomenon under investigation.

Coaches' responses to the expectancy item were categorized into three groups (low, moderate, and high) for analysis. Expectancy scores ranging from zero to three were classified as "low." Scores ranging from four to six were classified as "moderate." High expectancy was reflected by scores ranging from seven to nine. Analysis of variance procedures and partial correlations were conducted to answer the research question stated for this study.

Analysis of variance procedures were used to examine the dimensional properties of the causal statements provided by the coaches (hypotheses testing). The dependent variables were the four causal dimension scales of the CDSII (locus of causality, stability, personal control and external control). The independent variables were (a) perspective situation (perspective-taking or observer), (b) empathy subscale groups (high, neutral, or low), (c) personal injury history conditions (minor, moderate, or major, and career-ending or not career-ending), (d) rehabilitation behavior (compliant or non-compliant), and (e) recovery outcome (success or failure). For the research question, the dependent variables were the expectancy scores for the successful and failed recovery scenarios. The independent variables were the four causal scales. Additional analyses of demographic variables (sex, years coaching, sex of athletes coaching, etc.) were also conducted. Significant findings were reported and discussed.

# CHAPTER 4

# RESULTS

## *Preliminary Analyses*

Before conducting statistical analyses for the research hypotheses and question stated for this study, three preliminary analyses were performed. First, as stated in the methods section, the order of the two descriptive recovery scenarios (success and failure) was randomized and randomly distributed to the participants. While it was hopeful that the order of exposure to the different recovery outcomes would not significantly affect participants' causal attributions, analysis of variance between the order of exposure was warranted. Second, sex differences in empathy scale scores were expected (Davis, 1983; Eisenberg & Lennon, 1983), thus prompting its preliminary analysis and report. Lastly, while the recovery scenarios were reviewed for their realism, severity, and intended perceived outcome (success or failure) by several professionals within the field of kinesiology, participants' disagreement with the principal investigator's description of the recoveries' outcome may confound research findings and conclusions. Therefore, statistical review of participants' perception of the recovery outcomes described in the scenarios was also necessary.

*Effect of order of exposure to the descriptive recovery scenarios on causal attributions.* Four separate oneway ANOVAs showed that the order of exposure to the recovery scenarios had an effect on coaches' causal attributions for the successful recovery scenario (see Table 3). For the successful recovery outcome, coaches who were exposed to the successful recovery scenario before the failed recovery reported higher LOC scores ($M = 18.10$, $SD = 7.38$) than coaches who read the failed recovery scenario before the successful recovery scenario ($M = 13.13$, $SD = 7.41$), $F(1, 113) = 12.71$, $p < .001$. Also, coaches who were exposed to the successful recovery scenario before the failed recovery reported higher personal control scores ($M = 19.33$, $SD = 6.95$) than coaches who read the failed recovery before the successful recovery scenario ($M = 14.60$, $SD = 6.93$), $F(1, 114) = 13.14$, $p < .001$. For the failed recovery scenario, a oneway ANOVA indicated that the order of exposure to the descriptive recovery scenarios had no significant effect on coaches' causal attributions (see Table 4). Therefore, subsequent MANCOVA analyses of coaches' causal attributions for the successful recovery scenario were conducted with order-of-scenarios as a covariate. Such treatment of the data for the failed recovery scenario was not warranted.

Table 3

*For the Successful Recovery Scenario, ANOVA Comparison of the Order of Exposure to the Recovery Scenarios (Failure-Success vs. Success-Failure) on CDSII Scale Means*

| *CDSII Scale* | *Scenario Order* | *N* | *Mean* | *SD* | *df* | *F* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|
| Locus of Causality | | | | | | | | |
| | failure then success | 53 | 13.13 | 7.41 | | | | |
| | success then failure | 60 | 18.10 | 7.38 | 1 | 12.71** | .00 | .11 |
| Stability | | | | | | | | |
| | failure then success | 53 | 15.17 | 5.28 | | | | |
| | success then failure | 60 | 14.73 | 5.26 | 1 | 0.19 | .66 | .01 |
| Personal Control | | | | | | | | |
| | failure then success | 53 | 14.60 | 6.93 | | | | |
| | success then failure | 61 | 19.33 | 6.95 | 1 | 13.14** | .00 | .11 |
| External Control | | | | | | | | |
| | failure then success | 53 | 16.28 | 6.98 | | | | |
| | success then failure | 59 | 15.20 | 7.00 | 1 | 0.67 | .42 | .01 |

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

Table 4

*For the Failed Recovery Scenario, ANOVA Comparison of the Order of Exposure to the Recovery Scenarios (Failure-Success vs. Success-Failure) on CDSII Scale Means*

| *CDSII Scale* | *Scenario Order* | *N* | *Mean* | *SD* | *df* | *F* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|
| Locus of Causality | | | | | | | | |
| | failure then success | 53 | 13.36 | 6.65 | | | | |
| | success then failure | 59 | 15.49 | 7.12 | 1 | 2.67 | .11 | .02 |
| Stability | | | | | | | | |
| | failure then success | 53 | 9.98 | 3.58 | | | | |
| | success then failure | 60 | 10.98 | 4.38 | 1 | 1.75 | .19 | .12 |
| Personal Control | | | | | | | | |
| | failure then success | 53 | 15.51 | 5.91 | | | | |
| | success then failure | 60 | 17.50 | 7.30 | 1 | 2.50 | .12 | .02 |
| External Control | | | | | | | | |
| | failure then success | 53 | 14.15 | 6.65 | | | | |
| | success then failure | 60 | 11.92 | 6.42 | 1 | 3.29 | .07 | .03 |

*Sex differences in empathy scores.* Davis (1983) reported significant sex differences existed for each scale of the IRI, with females scoring higher than males on each of the four scales. However, four separate one-way ANOVAs revealed significant sex differences for only two scales of the IRI for this study's sample (see Table 5). That is, female coaches had higher scores for Fantasy (FS) and Empathic Concern (EC) than male coaches. Thus, subsequent tests of hypotheses involving the fantasy and empathic concern scales of the IRI included analyses for sex differences.

Table 5

*ANOVA Comparison of Sex Differences in Coaches' IRI Scale Scores on CDSII Scale Means*

| IRI Scale | *N* | *M* | *SD* | *df* | *F* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|
| Fantasy (FS) | | | | | | | |
| Female | 65 | 15.20 | 5.95 | | | | |
| Male | 44 | 12.93 | 4.68 | 1 | 4.50* | .04 | .04 |
| Empathic Concern (EC) | | | | | | | |
| Female | 65 | 21.71 | 3.57 | | | | |
| Male | 44 | 19.00 | 4.19 | 1 | 13.12** | .00 | .11 |
| Perspective-Taking (PT) | | | | | | | |
| Female | 65 | 20.00 | 4.17 | | | | |
| Male | 44 | 18.41 | 4.40 | 1 | 3.66 | .06 | .03 |
| Personal Distress (PD) | | | | | | | |
| Female | 65 | 8.48 | 4.25 | | | | |
| Male | 44 | 6.98 | 4.15 | 1 | 3.33 | .07 | .03 |

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

*Participants' perceptions of the outcome of the injuries described in the scenarios.* Before reviewing the statistical findings for each research hypothesis, it was important to determine whether participants viewed the success or failure of the rehabilitation similar to the investigator and a panel of experts. For each scenario, participants were asked to check whether they perceived the outcome to be a success or failure. The manipulation check item revealed a difference in participants' interpretation of the scenario described as a *recovery failure* by the principal investigator. A frequency distribution revealed 66.7% ($N = 76$) of participants agreed with the principal investigator that the recovery described in the failure scenario was indeed a failure. However, 29.8% ($N = 34$) of participants believed the recovery to be a success. Four participants (3.5%) did not respond to this manipulation check item. For the recovery success scenario, all participants ($N$ = 114) agreed with the principal investigator that the recovery outcome was successful. Therefore, subsequent MANCOVA analyses of coaches' causal attributions conducted for the recovery failure scenario included their belief about the recovery outcome (success or failure) as a covariate. Such treatment of data for the successful recovery scenario was not warranted.

*Research Hypotheses*

*Hypothesis 1.* It was expected that coaches in the Coach-as-Athlete (CA) perspective-taking condition would apply causal explanations for recovery outcomes differently than coaches in the Coach-as-Coach (CC) perspective-taking condition. As expected, participants in the CA condition attributed the cause of their recovery outcomes differently than participants in the CC condition's explanation for the cause of their athlete's recovery outcomes for both the successful and unsuccessful recovery outcomes.

For the recovery success scenario, a oneway MANCOVA (perspective-taking condition co-varied with order of descriptive scenario) was performed. Wilks' Lambda revealed that the covariate order of CDSII scenarios had a significant overall effect on coaches' causal attributions, $\Lambda = .85$, $F(1, 109) = 4.70$, $p = .002$, $\eta^2 = .15$. Test of between-subjects effects further revealed that the order of CDSII had a significant effect on locus of causality, $F(1, 111) = 12.19$, $p = .001$, $\eta^2 = .10$, and personal control, $F(1, 111) = 11.25$, $p = .001$, $\eta^2 = .09$ (see Table 6 for means and standard deviations).

Table 6

*For the Successful Recovery Scenario, CDSII Means and Standard Deviations for the Perspective-taking Condition Given the Order of CSDII as the Covariate*

| | CA Condition (N = 57) | | CC Condition (N = 54) | |
|---|---|---|---|---|
| CDSII Scale | *M* | *SD* | *M* | *SD* |
| Locus of Causality*** | 21.02 | 5.30 | 10.37 | 6.09 |
| Stability*** | 16.84 | 5.20 | 13.04 | 4.60 |
| Personal Control*** | 21.89 | 5.16 | 12.06 | 5.78 |
| External Control*** | 13.00 | 6.22 | 18.59 | 6.69 |

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

According to Wilks' Lambda, the independent variable, coaches' perspective-taking condition, also had a significant overall effect on coaches' causal attributions, $\Lambda = .47$, $F(1, 109) = 29.13$, $p < .001$, $\eta^2 = .53$. Analysis of between-subjects effects revealed that coaches in the CA condition reported the "single most likely cause" of their recovery outcome to be more internal, $F(1, 111) = 93.76$, $p < .001$, $\eta^2 = .47$, more stable, $F(1, 111) = 17.45$, $p < .001$, $\eta^2 = .14$, and of more personal control, $F(1, 111) = 89.70$, $p < .001$, $\eta^2 = .44$, in comparison to coaches in the CC condition's attributions for their athlete's recovery outcome (see Table 6 for means and standard deviations). However, coaches in the CA condition attributed less external control to the cause of their recovery outcome in comparison to coaches in the CC condition ascription of external control for their athlete's successful recovery outcome, $F(1, 111) = 20.83$, $p < .001$, $\eta^2 = .16$.

For the recovery failure scenario, a oneway MANCOVA [perspective-taking condition (CA or CC) co-varied with recovery's outcome (success or failure)] was performed. Wilks' Lambda revealed that the covariate, coaches' belief about the recovery's outcome, did not have a significant overall effect on participants' causal attributions, $\Lambda = .92$, $F(1, 107) = 2.20$, $p = .07$, $\eta^2 = .08$. However, perspective-taking condition had a significant overall effect, $\Lambda = .54$, $F(1, 107) = 22.27$, $p < .001$, $\eta^2 = .46$. The between-subjects test revealed that causal attributions of coaches in the CA condition were more internal, $F(1, 109) = 54.05$, $p < .001$, $\eta^2 = .50$, more stable, $F(1, 109) = 3.98$, $p < .05$, $\eta^2 = .32$, and of greater personal control, $F(1, 109) = 23.34$, $p < .001$, $\eta^2 = .39$, in comparison to the causal attributions for their athlete's unsuccessful recovery made by coaches in the CC condition (see Table 7 for means and standard deviations). Consistent with their attribution of personal control, coaches in the CC condition attributed more external control for their athlete's unsuccessful recovery outcome than coaches in the CA condition, $F(1, 109) = 42.98$, $p < .001$, $\eta^2 = .34$.

Table 7

*For the Failed Recovery Scenario, CDSII Means and Standard Deviations for the Perspective-taking Condition Given Coaches' Belief about the Recovery Outcome as the Covariate*

| | CA Condition (N = 55) | | CC Condition (N = 54) | |
|---|---|---|---|---|
| CDSII Scale | *M* | *SD* | *M* | *SD* |
| Locus of Causality*** | 18.38 | 6.23 | 10.29 | 5.20 |
| Stability* | 11.24 | 3.87 | 9.72 | 4.23 |
| Personal Control*** | 19.26 | 6.38 | 13.67 | 5.98 |
| External Control*** | 9.62 | 5.16 | 16.78 | 5.97 |

$^*p < .05$; $^{**}p < .01$; $^{***}p < .001$

*IRI Scale Groups.* Before conducting analysis of variance tests for hypotheses regarding levels of empathy (low or high), participants' scores were categorized as low, neutral, or high for each scale of the IRI. For each scale of the IRI, the score range for each category was as follows: low, 0 – 11; neutral, 12 – 16; and high, 17 – 28. The number of participants for each scale of the IRI by level of empathy is listed in Table 8.

Table 8

*Number of Participants at Each Level of the IRI Scales*

| | Level of IRI | | | | |
|---|---|---|---|---|---|
| IRI Scale | Low | Neutral | High | Missing | Total N |
| Fantasy | 32 | 39 | 42 | 1 | 114 |
| Empathic Concern | 2 | 19 | 92 | 1 | 114 |
| Perspective-Taking | 5 | 26 | 79 | 4 | 114 |
| Personal Distress | 85 | 27 | 0 | 2 | 114 |

The fantasy scale achieved a sufficient sample for each level for comparison of participants in the low fantasy group to those in the high fantasy group. However, because the empathic concern, perspective-taking, and personal distress scales did not achieve a sufficient sample for either the low or high group, adjustments to comparison groups were made. For empathic concern (EC), statistical comparisons consisted of the low-neutral EC and high EC groups. Comparison levels of perspective-taking (PT) consisted of low-neutral PT and high PT groups. Personal distress (PD) was analyzed according to low PD and neutral PD groups.

*Hypothesis 2.* It was expected that coaches with high empathy scale scores would attribute recovery outcomes to external, environmental factors more than coaches with low empathy subscale scores. Support for this research hypothesis was not found.

For the recovery success scenario, four separate MANCOVA analyses were conducted. A separate 2 x 2 MANCOVA (level of empathy by sex co-varied with order of CDSII scenario) was conducted for the fantasy (FS) and empathic concern (EC) scales of the IRI for a total of two analyses. A separate oneway MANCOVA (level of empathy co-varied with order of CDSII scenario) was conducted for the perspective-taking (PT) and personal distress (PD) scales of the IRI for a total of two analyses. The Wilks' Lambda revealed that participants' sex did not have an overall main effect on coaches' causal attributions for either the fantasy scale, $\Lambda = 1.00$, $F(3, 67) = .08$, $p = .99$, $\eta^2 = .01$, or the empathic concern scale, $\Lambda = .92$, $F(3, 106) = .20$, $p = .94$, $\eta^2 = .01$. The interaction of participants' sex with levels of fantasy did not have a significant effect on coaches' causal ascriptions, $\Lambda = .95$, $F(3, 67) = .79$, $p = .54$, $\eta^2 = .05$. Also, the interaction of participants' sex with levels of empathic concern did not have a significant effect on coaches' causal ascriptions, $\Lambda = .99$, $F(3, 106) = .28$, $p = .89$, $\eta^2 = .01$.

Wilks' Lambda further revealed that overall the order in which coaches were exposed to the descriptive scenarios had a significant covariate effect on their causal ascriptions for each analysis of the IRI scales (see Table 9). For the fantasy scale analysis, the test of between-subjects effects (sex of coach) revealed that the covariate had a significant effect on coaches' attribution of locus of causality, $F(1, 71) = 9.80$, $p = .003$, $\eta^2 = .13$, and personal control, $F(1, 71) = 5.45$, $p = .02$, $\eta^2 = .08$ (see Table 10 for means and standard deviations). For the empathic concern scale analysis, the test of between-subjects effects revealed that the covariate had a significant effect on coaches' attribution of locus of causality, $F(1, 110) = 13.31$, $p < .01$, $\eta^2 = .11$, and personal control, $F(1, 110) = 12.53$, $p = .001$, $\eta^2 = .10$. For the perspective-taking scale analysis, the test of between-subjects effects revealed that the covariate had a significant effect on coaches' attribution of locus of causality, $F(1, 108) = 13.01$, $p < .01$, $\eta^2 = .11$, and personal control, $F(1, 108) = 12.23$, $p = .001$, $\eta^2 = .10$. Finally, for the personal distress scale analysis, the test of between-subjects effects revealed that the covariate had a significant effect on coaches' attribution of locus of causality, $F\,(1, 109) = 13.50, p < .01$, $\eta^2 = .11$, and personal control, $F\,(1, 109) = 12.74, p = .001, \eta^2 = .11$.

While significant covariate effects on coaches' causal attributions for the athlete's successful recovery were found for each separate MANCOVA analysis, Wilks' Lambda revealed that the independent variable, levels of empathy, did not have a significant overall effect for any scale of the IRI (see Table 9). Unfortunately, the lack of finding significant differences in coaches' causal attributions between levels of empathy do not support the second research hypothesis stated in this study.

Table 9

*For the Successful Recovery Scenario, Overall Covariate Effect of Order of Descriptive Scenarios and Main Effect of Levels of Empathy on Coaches' Causal Attributions for Each Separate MANCOVA Analysis of the IRI Scales*

| | | Overall Covariate Effect of Scenario Order on Coaches Causal Attributions | | | | Overall Main Effect of Levels of Empathy on Coaches Causal Attributions | | | |
|---|---|---|---|---|---|---|---|---|---|
| *IRI Scale* | *df 1,2* | *Wilks' Λ* | *F* | *p* | $\eta^2$ | *Wilks' Λ* | *F* | *p* | $\eta^2$ |
| Fantasy | 3, 67 | .80 | 3.85** | .007 | .20 | .88 | 1.87 | .13 | .11 |
| Empathic Concern | 3, 106 | .83 | 5.11** | .001 | .17 | .96 | 0.20 | .94 | .04 |
| Perspective-taking | 1, 106 | .84 | 4.79** | .001 | .16 | .97 | 0.78 | .54 | .03 |
| Personal Distress | 1, 107 | .83 | 5.12** | .001 | .17 | .99 | 0.39 | .81 | .02 |

**$p < .01$

Table 10

*For the Successful Recovery Scenario, CDSII Descriptive Statistics by Levels of Empathy with the Order of CDSII as the Covariate*

| | | | | CDSII Scale | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | Level of Empathy | Sex | | Locus of Cause | | Stability | | Personal Control | | External Control | |
| | | | *N* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Fantasy | | | | | | | | | | | |
| | low | female | 13 | 15.31 | 8.43 | 15.46 | 7.52 | 17.23** | 7.49 | 17.38 | 5.92 |
| | | male | 18 | 17.61 | 9.15 | 16.83 | 4.74 | 18.06** | 8.40 | 17.72 | 7.39 |
| | | Total | 31 | 16.65 | 8.79 | 16.26 | 5.99 | 17.71 | 7.91 | 17.58 | 6.71 |
| | high | female | 30 | 17.40 | 7.17 | 15.23 | 5.01 | 17.47 | 7.36 | 13.80 | 7.11 |
| | | male | 10 | 13.70 | 7.51 | 13.90 | 4.63 | 14.70 | 7.54 | 14.80 | 8.77 |
| | | Total | 40 | 16.48 | 7.34 | 14.90 | 4.89 | 16.78 | 7.41 | 14.05 | 7.45 |
| | Total | female | 43 | 16.77 | 7.53 | 15.30 | 5.79 | 17.40 | 7.31 | 14.88 | 6.90 |
| | | male | 28 | 16.21 | 8.67 | 15.79 | 4.83 | 16.86 | 8.13 | 16.68 | 7.88 |
| | | Total | 71 | 16.55 | 7.94 | 15.49 | 5.40 | 17.18 | 7.59 | 15.59 | 7.30 |
| Empathic Concern | | | | | | | | | | | |
| | low-neutral | female | 8 | 16.50 | 7.45 | 16.75 | 5.82 | 18.50** | 4.63 | 14.13 | 7.92 |
| | | male | 13 | 16.08 | 9.58 | 16.54 | 5.52 | 16.62** | 8.63 | 14.92 | 8.14 |
| | | Total | 21 | 16.24 | 8.63 | 16.62 | 5.49 | 17.33 | 7.28 | 14.62 | 7.86 |
| | high | female | 57 | 16.00 | 7.54 | 14.63 | 5.44 | 17.07 | 7.23 | 15.26 | 6.72 |
| | | male | 32 | 15.25 | 8.01 | 14.44 | 4.72 | 16.91 | 7.91 | 17.06 | 6.97 |
| | | Total | 89 | 15.73 | 7.68 | 14.56 | 5.17 | 17.01 | 7.44 | 15.91 | 6.83 |
| | Total | female | 65 | 16.06 | 7.47 | 14.89 | 5.48 | 17.25 | 6.95 | 15.12 | 6.82 |
| | | male | 45 | 15.49 | 8.39 | 15.04 | 5.00 | 16.82 | 8.02 | 16.44 | 7.30 |
| | | Total | 110 | 15.83 | 7.83 | 14.95 | 5.27 | 17.07 | 7.38 | 15.66 | 7.02 |
| Perspective -taking | | | | | | | | | | | |
| | low-neutral | | 31 | 15.74 | 7.82 | 15.52 | 5.42 | 16.48** | 7.45 | 14.26** | 7.29 |
| | high | | 77 | 15.70 | 7.91 | 14.56 | 5.17 | 17.18** | 7.43 | 16.22** | 6.93 |
| | Total | | 108 | 15.71 | 7.84 | 14.83 | 5.24 | 16.98 | 7.41 | 15.66 | 7.06 |
| Personal Distress | | | | | | | | | | | |
| | low | | 83 | 16.34 | 7.86 | 15.19 | 5.45 | 17.46** | 7.68 | 15.41** | 7.26 |
| | neutral | | 26 | 14.15 | 7.80 | 14.27 | 4.77 | 15.77** | 6.45 | 16.69** | 6.25 |
| | Total | | 109 | 15.82 | 7.86 | 14.97 | 5.29 | 17.06 | 7.41 | 15.72 | 7.03 |

$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

For the recovery failure scenario, four separate MANCOVA analyses were conducted. A separate 2 x 2 MANCOVA (level of empathy by sex co-varied with coaches' perception of the recovery's outcome) was conducted for the fantasy (FS) and empathic concern (EC) scales of the IRI for a total of two analyses. A separate oneway MANCOVA (level of empathy co-varied with coaches' perception of the recovery's outcome) was conducted for the perspective-taking (PT) and personal distress (PD) scales of the IRI for a total of two analyses. Wilks' Lambda revealed that participants' sex did not have an overall main effect on coaches' causal attributions for either the fantasy scale, $\Lambda = .92$, $F(3, 67) = 1.38$, $p = .25$, $\eta^2 = .08$, or the empathic concern scale, $\Lambda = .92$, $F(3, 104) = 2.20$, $p = .07$, $\eta^2 = .08$. The interaction of participants' sex with levels of fantasy did not have a significant effect on coaches' causal ascriptions, $\Lambda = .95$, $F(3, 67) = .79$, $p = .54$, $\eta^2 = .05$. Also, the interaction of participants' sex with levels of empathic concern did not have a significant effect on coaches' causal ascriptions, $\Lambda = .96$, $F(3, 104) = .93$, $p = .45$, $\eta^2 = .04$. Furthermore, Wilks' Lambda revealed that coaches' belief about the athlete's recovery outcome as either a success or failure did not have a significant covariate effect on their causal attributions (see Table 11).

Like the findings for the successful recovery scenario, levels of empathy did not have a significant overall effect on coaches' attributions for the cause of the athlete's failed recovery for any scale of the IRI (see Tables 12 and 13 for Wilks' Lambda and descriptive statistics). The lack of significant differences in coaches' causal attributions between levels of empathy do not support the research hypothesis stated in this study.

Table 11

*For the Failed Recovery Scenario, Overall Covariate Effect of Recovery Outcome on Coaches' Causal Attributions for Each Separate MANCOVA Analysis of the IRI Scales*

| | Overall Covariate Effect of Scenario Order on Coaches Causal Attributions | | | | | |
|---|---|---|---|---|---|---|
| IRI Scale | *df1* | *df2* | *Wilks' Λ* | *F* | *p* | $\eta^2$ |
| Fantasy | 3 | 67 | .87 | 2.47 | .06 | .13 |
| Empathic Concern | 3 | 104 | .92 | 2.26 | .07 | .08 |
| Perspective-taking | 1 | 103 | .92 | 2.11 | .09 | .08 |
| Personal Distress | 1 | 105 | .92 | 2.18 | .08 | .08 |

Table 12

*For the Failed Recovery Scenario, Overall Main Effect of Levels of Empathy (Levels of IRI Scales) on Coaches' Causal Attributions for the Separate MANCOVA Analyses*

| | Overall Main Effect of Levels of Empathy on Coaches Causal Attributions | | | | | |
|---|---|---|---|---|---|---|
| IRI Scale | *df1* | *df2* | *Wilks' Λ* | *F* | *p* | $\eta^2$ |
| Fantasy | 3 | 67 | .99 | 0.09 | .99 | .01 |
| Empathic Concern | 3 | 104 | .95 | 2.26 | .07 | .05 |
| Perspective-taking | 1 | 103 | .10 | 0.07 | .99 | .00 |
| Personal Distress | 1 | 105 | .97 | 0.67 | .61 | .03 |

Table 13

*For the Failed Recovery Scenario, CDSII Descriptive Statistics by Levels of Empathy Given the Order of CDSII as the Covariate*

| | | | | CDSII Scale | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | Level of Empathy | Sex | | Locus of Cause | | Stability | | Personal Control | | External Control | |
| | | | *N* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Fantasy | | | | | | | | | | | |
| | low | female | 14 | 13.29 | 9.31 | 9.50 | 4.62 | 16.07 | 8.35 | 13.36 | 6.07 |
| | | male | 17 | 14.29 | 7.61 | 11.53 | 5.42 | 17.41 | 7.00 | 15.12 | 7.17 |
| | | Total | 31 | 13.84 | 8.29 | 10.61 | 5.10 | 16.81 | 7.54 | 14.32 | 6.65 |
| | high | female | 31 | 16.39 | 6.14 | 10.23 | 3.35 | 17.32 | 5.73 | 12.03 | 6.58 |
| | | male | 9 | 11.22 | 7.01 | 10.22 | 4.71 | 15.56 | 7.32 | 14.56 | 8.38 |
| | | Total | 40 | 15.23 | 6.62 | 10.23 | 3.63 | 16.93 | 6.07 | 12.60 | 6.99 |
| | Total | female | 45 | 15.42 | 7.31 | 10.00 | 3.75 | 16.93 | 6.58 | 12.44 | 6.38 |
| | | male | 26 | 13.23 | 7.42 | 11.08 | 5.13 | 16.77 | 7.02 | 14.92 | 7.45 |
| | | Total | 71 | 14.62 | 7.37 | 10.39 | 4.30 | 16.87 | 6.70 | 13.35 | 6.85 |
| Empathic Concern | | | | | | | | | | | |
| | low-neutral | female | 7 | 10.86 | 6.07 | 9.00 | 5.66 | 10.29 | 6.02 | 11.14 | 5.49 |
| | | male | 13 | 13.92 | 6.08 | 10.77 | 3.44 | 16.31 | 6.90 | 13.62 | 7.24 |
| | | Total | 20 | 12.85 | 6.10 | 10.15 | 4.28 | 14.20 | 7.08 | 12.75 | 6.64 |
| | high | female | 59 | 15.41 | 7.22 | 10.05 | 3.49 | 17.02 | 6.67 | 12.80 | 6.40 |
| | | male | 29 | 13.41 | 7.15 | 11.48 | 5.04 | 16.76 | 6.69 | 14.24 | 7.22 |
| | | Total | 88 | 14.75 | 7.22 | 10.52 | 4.09 | 16.93 | 6.64 | 13.27 | 6.68 |
| | Total | female | 66 | 14.92 | 7.21 | 9.94 | 3.73 | 16.30 | 6.89 | 12.62 | 6.29 |
| | | male | 42 | 13.57 | 6.77 | 11.26 | 4.57 | 16.62 | 6.67 | 14.05 | 7.15 |
| | | Total | 108 | 14.40 | 7.04 | 10.45 | 4.11 | 16.43 | 6.77 | 13.18 | 6.64 |
| Perspective-taking | | | | | | | | | | | |
| | low-neutral | | 31 | 14.45 | 7.39 | 10.48 | 4.26 | 16.13 | 7.22 | 13.32 | 6.43 |
| | high | | 74 | 14.39 | 7.01 | 10.52 | 4.01 | 16.36 | 6.67 | 13.34 | 6.76 |
| | Total | | 105 | 14.41 | 7.09 | 10.51 | 4.06 | 16.30 | 6.81 | 13.33 | 6.63 |
| Personal Distress | | | | | | | | | | | |
| | low | | 81 | 14.57 | 7.13 | 10.45 | 4.33 | 16.87 | 7.01 | 12.87 | 6.59 |
| | neutral | | 26 | 13.42 | 6.55 | 10.50 | 3.50 | 14.88 | 5.93 | 14.50 | 6.58 |
| | Total | | 107 | 14.29 | 6.98 | 10.46 | 4.13 | 16.39 | 6.80 | 13.27 | 6.60 |

*Hypothesis 3.* It was hypothesized that the within participants' perspective-taking conditions (CA or CC) would yield differences in causal attributions between levels of IRI scale scores. More specifically, it was expected that coaches in the CA condition with high IRI scale scores would attribute the cause of recovery outcomes to external factors more so than coaches in the CA condition with low empathy scores. The same was expected of coaches with high and low empathy scores in the CC condition. A lack of support for this research hypothesis was found for the IRI scales for both recovery outcomes.

*Successful recovery scenario – within Coach-as-Athlete (CA) condition.* A separate 2 x 2 MANCOVA (level of empathy by sex co-varied with order of descriptive recovery scenario) was conducted for the fantasy (FS) and empathic concern (EC) scales of the IRI analyses of CDSII scores within the coach-as-athlete (CA) condition. A separate oneway MANCOVA (level of empathy co-varied with order of descriptive recovery scenarios) was conducted for the perspective-taking (PT) and personal distress (PD) scales of the IRI. (See Tables 14 and 15 for Wilks' Lambda and descriptive statistics.) Wilks' Lambda revealed that, within the CA condition, the sex of the participants did not have an overall main effect on coaches' causal attributions for either the fantasy scale, $\Lambda = .88$, $F(3, 33) = 1.02$, $p = .42$, $\eta^2 = .13$, or the empathic concern scale, $\Lambda = .93$, $F(3, 53) = .87$, $p = .49$, $\eta^2 = .07$. The interaction of participants' sex with levels of fantasy did not have a significant effect on coaches' causal ascriptions, $\Lambda = .91$, $F(3, 33) = .69$, $p = .60$, $\eta^2 = .10$. Also, the interaction of participants' sex with levels of empathic concern did not have a significant effect on coaches' causal ascriptions, $\Lambda = .93$, $F(3, 53) = .91$, $p = .47$, $\eta^2 = .08$. Wilks' Lambda further revealed that the covariate effect of the order of descriptive scenarios on coaches' causal attributions was not significant for any IRI scale analysis. Also, contrary to the research hypothesis, according to Wilks' Lambda, levels of empathy did not have an overall significant main effect on the causal attributions of coaches within the CA condition.

Table 14

*For the Successful Recovery Scenario – Within the CA Condition, Overall Covariate Effect of Order of Descriptive Scenarios and Main Effect of Levels of Empathy on Coaches' Causal Attributions for Each Separate MANCOVA Analysis of the IRI Scales*

| | | Covariate Effect on Coaches in the CA Condition's Causal Attributions | | | | Main Effect of Levels of Empathy on Coaches in the CA Condition's Causal Attributions | | | |
|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | *df*1,2 | $\Lambda$ | *F* | *p* | $\eta^2$ | $\Lambda$ | *F* | *p* | $\eta^2$ |
| Fantasy | 3, 33 | .88 | 1.01 | .42 | .12 | .77 | 2.11 | .11 | .23 |
| Empathic Concern | 3, 53 | .87 | 1.87 | .31 | .12 | .93 | 0.87 | .49 | .06 |
| Perspective-taking | 1, 53 | .88 | 1.63 | .18 | .12 | .94 | 0.80 | .53 | .06 |
| Personal Distress | 1, 54 | .87 | 1.81 | .14 | .13 | .96 | 0.46 | .76 | .04 |

Table 15

*For the Successful Recovery Scenario – Within the CA Condition, CDSII Descriptive Statistics by Levels of Empathy with the Order of CDSII as the Covariate*

| | | | | CDSII Scale | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | Level of Empathy | Sex | | Locus of Cause | | Stability | | Personal Control | | External Control | |
| | | | *N* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Fantasy | | | | | | | | | | | |
| | low | female | 5 | 24.20 | 2.17 | 17.00 | 8.00 | 24.80 | 4.38 | 14.00 | 4.42 |
| | | male | 10 | 22.20 | 7.41 | 19.50 | 4.62 | 22.20 | 7.08 | 15.20 | 7.27 |
| | | Total | 15 | 22.87 | 6.13 | 18.67 | 5.79 | 23.07 | 6.27 | 14.80 | 6.32 |
| | high | female | 16 | 22.69 | 3.79 | 17.06 | 5.20 | 22.50 | 4.32 | 10.13 | 5.41 |
| | | male | 6 | 16.33 | 4.68 | 14.50 | 4.23 | 18.83 | 6.11 | 12.83 | 7.41 |
| | | Total | 22 | 20.95 | 4.88 | 16.36 | 4.99 | 21.50 | 5.00 | 10.86 | 5.96 |
| | Total | female | 21 | 23.05 | 3.49 | 17.05 | 5.75 | 23.05 | 4.34 | 11.05 | 5.36 |
| | | male | 16 | 20.00 | 6.99 | 17.63 | 5.00 | 20.94 | 6.74 | 14.31 | 7.17 |
| | | Total | 37 | 21.73 | 5.42 | 17.30 | 5.37 | 22.14 | 5.52 | 12.46 | 6.33 |
| Empathic Concern | | | | | | | | | | | |
| | low-neutral | female | 2 | 13.00 | 8.49 | 14.00 | 7.07 | 9.50 | 9.19 | 6.00 | 4.24 |
| | | male | 8 | 16.25 | 6.50 | 12.00 | 3.38 | 18.63 | 7.27 | 11.00 | 5.66 |
| | | Total | 10 | 15.60 | 6.54 | 12.40 | 3.89 | 16.80 | 8.08 | 10.00 | 5.60 |
| | high | female | 29 | 20.10 | 5.70 | 10.59 | 3.15 | 20.14 | 6.01 | 9.10 | 4.72 |
| | | male | 16 | 17.00 | 6.35 | 11.69 | 4.95 | 19.19 | 5.88 | 10.31 | 5.85 |
| | | Total | 45 | 19.00 | 6.06 | 10.98 | 3.86 | 19.80 | 5.91 | 9.53 | 5.12 |
| | Total | female | 31 | 19.65 | 5.99 | 10.81 | 3.41 | 19.45 | 6.60 | 8.90 | 4.69 |
| | | male | 24 | 16.75 | 6.26 | 11.79 | 4.41 | 19.00 | 6.22 | 10.54 | 5.67 |
| | | Total | 55 | 18.38 | 6.23 | 11.24 | 3.87 | 19.25 | 6.38 | 9.62 | 5.16 |
| Perspective-taking | | | | | | | | | | | |
| | low-neutral | | 18 | 20.39 | 5.78 | 17.61 | 5.26 | 20.83 | 6.36 | 11.39 | 6.29 |
| | high | | 37 | 21.27 | 5.2 | 16.22 | 5.21 | 22.41 | 4.61 | 13.62 | 6.19 |
| | Total | | 55 | 20.98 | 5.36 | 16.67 | 5.21 | 21.89 | 5.24 | 12.89 | 6.26 |
| Personal Distress | | | | | | | | | | | |
| | low | | 45 | 21.07 | 5.63 | 17.16 | 5.49 | 22.13 | 5.49 | 12.8 | 6.64 |
| | neutral | | 11 | 21.18 | 4.05 | 15.91 | 3.99 | 21.18 | 3.84 | 14.09 | 4.46 |
| | Total | | 56 | 21.09 | 5.32 | 16.91 | 5.22 | 21.94 | 5.19 | 13.05 | 6.26 |

*Successful recovery scenario – within Coach-as-Coach (CC) condition.* A separate 2 x 2 MANCOVA (level of empathy by sex co-varied with order of descriptive recovery scenario) was conducted for the fantasy (FS) and empathic concern (EC) scales of the IRI analyses of CDSII scores within the coach-as-coach (CC) condition. A separate oneway MANCOVA (level of empathy co-varied with order of descriptive recovery scenarios) was conducted for the perspective-taking (PT) and personal distress (PD) scales of the IRI. (See Tables 16 and 17 for Wilks' Lambda and descriptive statistics.) Wilks' Lambda revealed that, within the CC condition, the sex of the participants did not have an overall main effect on coaches' causal attributions for either the fantasy scale, $\Lambda = .97$, $F\,(3, 30) = .24$, $p = .92$, $\eta^2 = .04$, or the empathic concern scale, $\Lambda = .95$, $F\,(3, 49) = .60$, $p = .66$, $\eta^2 = .05$. The interaction of participants' sex with levels of fantasy did not have a significant effect on coaches' causal ascriptions, $\Lambda = .94$, $F\,(3, 30) = .39$, $p = .82$, $\eta^2 = .06$. Also, the interaction of participants' sex with levels of empathic concern did not have a significant effect on coaches' causal ascriptions, $\Lambda = .94$, $F\,(3, 49) = .73$, $p = .58$, $\eta^2 = .06$.

Wilks' Lambda further revealed that the covariate effect of the order of descriptive scenarios on coaches' causal attributions was significant for empathic concern, perspective-taking, and personal distress scales of the IRI. However, contrary to the research hypothesis, levels of empathy did not have an overall significant main effect on the causal attributions of coaches within the CC condition (see Tables 16 and 17).

Table 16

*For the Successful Recovery Scenario – Within the CC Condition, Overall Covariate Effect of Order of Descriptive Scenarios and Main Effect of Levels of Empathy on Coaches' Causal Attributions for Each Separate MANCOVA Analysis of the IRI Scales*

| | | Overall Covariate Effect on Coaches in the CC Condition's Causal Attributions | | | | Overall Main Effect of Levels of Empathy on Coaches in the CC Condition's Causal Attributions | | | |
|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | *df1,2* | $\Lambda$ | *F* | *p* | $\eta^2$ | $\Lambda$ | *F* | *p* | $\eta^2$ |
| Fantasy | 3, 30 | .75 | 2.19 | .10 | .25 | .91 | 0.91 | .61 | .09 |
| Empathic Concern | 3, 49 | .78 | 3.21* | .02 | .22 | .97 | 0.32 | .86 | .03 |
| Perspective-taking | 1, 49 | .79 | 2.98* | .03 | .21 | .96 | 0.42 | .80 | .04 |
| Personal Distress | 1, 51 | .77 | 3.53* | .01 | .23 | .96 | 0.48 | .75 | .04 |

*$p < .05$

Table 17

*For the Successful Recovery Scenario – Within the CC Condition, CDSII Descriptive Statistics by Levels of Empathy with the Order of CDSII as the Covariate*

| | | | | CDSII Scale | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | Level of Empathy | Sex | | Locus of Cause | | Stability | | Personal Control | | External Control | |
| | | | *N* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Fantasy | | | | | | | | | | | |
| | low | female | 8 | 9.75 | 5.23 | 14.50 | 7.60 | 12.50 | 4.31 | 19.50 | 5.98 |
| | | male | 8 | 11.88 | 8.08 | 13.50 | 2.07 | 12.88 | 7.20 | 20.88 | 6.66 |
| | | Total | 16 | 10.81 | 6.67 | 14.00 | 5.40 | 12.69 | 5.74 | 20.19 | 6.16 |
| | high | female | 14 | 11.36 | 4.92 | 13.14 | 4.00 | 11.71 | 5.69 | 18.00 | 6.58 |
| | | male | 4 | 9.75 | 9.91 | 13.00 | 5.72 | 8.50 | 4.80 | 17.75 | 10.94 |
| | | Total | 18 | 11.00 | 6.03 | 13.11 | 4.24 | 11.00 | 5.54 | 17.94 | 7.36 |
| | Total | female | 22 | 10.77 | 4.98 | 13.64 | 5.44 | 12.00 | 5.14 | 18.55 | 6.26 |
| | | male | 12 | 11.17 | 8.33 | 13.33 | 3.42 | 11.42 | 6.63 | 19.83 | 7.95 |
| | | Total | 34 | 10.91 | 6.24 | 13.53 | 4.77 | 11.79 | 5.61 | 19.00 | 6.81 |
| Empathic Concern | | | | | | | | | | | |
| | low-neutral | female | 5 | 14.20 | 7.79 | 15.60 | 6.84 | 15.80 | 1.64 | 18.00 | 5.20 |
| | | male | 5 | 7.60 | 5.08 | 12.60 | 4.62 | 9.40 | 3.78 | 17.00 | 9.14 |
| | | Total | 10 | 10.90 | 7.11 | 14.10 | 5.72 | 12.60 | 4.35 | 17.50 | 7.03 |
| | high | female | 28 | 9.82 | 4.55 | 12.57 | 4.38 | 11.82 | 5.26 | 18.57 | 5.97 |
| | | male | 15 | 10.60 | 8.00 | 12.80 | 4.28 | 11.53 | 7.39 | 19.13 | 8.19 |
| | | Total | 43 | 10.09 | 5.90 | 12.65 | 4.29 | 11.72 | 6.00 | 18.77 | 6.74 |
| | Total | female | 33 | 10.48 | 5.25 | 13.03 | 4.82 | 12.42 | 5.08 | 18.48 | 5.79 |
| | | male | 20 | 9.85 | 7.37 | 12.75 | 4.24 | 11.00 | 6.64 | 18.60 | 8.24 |
| | | Total | 53 | 10.25 | 6.08 | 12.92 | 4.57 | 11.89 | 5.70 | 18.53 | 6.74 |
| Perspective -taking | | | | | | | | | | | |
| | low-neutral | | 13 | 9.31 | 5.31 | 12.62 | 4.31 | 10.46 | 3.69 | 18.23 | 6.89 |
| | high | | 38 | 10.89 | 6.31 | 13.03 | 4.80 | 12.71 | 6.13 | 18.76 | 6.61 |
| | Total | | 51 | 10.49 | 6.06 | 12.92 | 4.64 | 12.13 | 5.66 | 18.63 | 6.62 |
| Personal Distress | | | | | | | | | | | |
| | low | | 38 | 10.74 | 6.31 | 12.87 | 4.43 | 11.92 | 6.06 | 18.50 | 6.81 |
| | neutral | | 15 | 9.00 | 5.45 | 13.07 | 5.06 | 11.80 | 4.87 | 18.60 | 6.81 |
| | Total | | 53 | 10.25 | 6.08 | 12.92 | 4.57 | 11.89 | 5.70 | 18.53 | 6.74 |

*Failure recovery scenario – within Coach-as-Athlete (CA) condition.* A separate 2 x 2 MANCOVA (level of empathy by sex co-varied with coaches' perception of the recovery's outcome) was conducted for the fantasy (FS) and empathic concern (EC) scales of the IRI for a total of two analyses. A separate oneway MANCOVA (level of empathy co-varied with coaches' perception of the recovery's outcome) was conducted for the perspective-taking (PT) and personal distress (PD) scales of the IRI for a total of two analyses. Wilks' Lambda revealed that participants' sex had an overall main effect on coaches' causal attributions for the fantasy scale, $\Lambda = .64$, $F(3, 32) = 3.91$, $p = .01$,, $\eta^2 = .36$, but not for the empathic concern scale, $\Lambda = .87$, $F(3, 51) = 1.70$, $p = .17$, $\eta^2 = .16$. The between-subjects test analysis involving the fantasy scale indicated that female coaches within the CA condition attributed greater internal locus of causality to the cause of the athlete's recovery failure ($N = 21$, $M = 21.52$, $SD = 4.66$) than male coaches ($N = 15$, $M = 16.53$, $SD = 7.20$), $F(1, 36) = 8.38$, $p = .01$, $\eta^2 = .21$. However, the interaction of participants' sex with levels of fantasy did not have a significant effect on coaches' causal ascriptions, $\Lambda = .97$, $F(3, 32) = .24$, $p = .92$, $\eta^2 = .03$. Also, the interaction of participants' sex with levels of empathic concern did not have a significant effect on coaches' causal ascriptions, $\Lambda = .87$, $F(3, 51) = 1.79$, $p = .15$, $\eta^2 = .13$. Furthermore, Wilks' Lambda revealed that the covariate effect of coaches' recovery outcome belief on their causal attributions was not significant for any IRI scale analysis. Also, contrary to the research hypothesis, levels of empathy did not have an overall significant main effect on the causal attributions of coaches within the CA condition (see Tables 18 and 19 for Wilks' test and descriptive statistics).

Table 18

*For the Failure Recovery Scenario – Within the CA Condition, Overall Covariate Effect of Recovery Outcome Belief and Main Effect of Levels of Empathy on Coaches' Causal Attributions for Each Separate MANCOVA Analysis of the IRI Scales*

| | | Overall Covariate Effect on Coaches in the CC Condition's Causal Attributions | | | | Overall Main Effect of Levels of Empathy on Coaches in the CC Condition's Causal Attributions | | | |
|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | *df1, 2* | $\Lambda$ | $F$ | $p$ | $\eta^2$ | $\Lambda$ | $F$ | $p$ | $\eta^2$ |
| Fantasy | 3, 32 | .88 | 0.98 | .44 | .12 | .88 | 0.98 | .44 | .13 |
| Empathic Concern | 3, 51 | .87 | 1.72 | .16 | .25 | .88 | 1.62 | .19 | .14 |
| Perspective-taking | 1, 51 | .93 | 0.87 | .49 | .07 | .93 | 0.85 | .50 | .07 |
| Personal Distress | 1, 52 | .92 | 0.99 | .42 | .08 | .90 | 1.35 | .27 | .10 |

Table 19

*For the Failure Recovery Scenario – Within the CA Condition, CDSII Descriptive Statistics by Levels of Empathy with Coaches' Recovery Outcome Belief as the Covariate*

| | | | | CDSII Scale | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | Level of Empathy | Sex | | Locus of Cause | | Stability | | Personal Control | | External Control | |
| | | | *N* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Fantasy | | | | | | | | | | | |
| | low | female | 5 | 23.80 | 4.55 | 11.00 | 3.94 | 23.20 | 4.92 | 12.40 | 6.54 |
| | | male | 10 | 17.80 | 6.73 | 12.30 | 4.64 | 20.00 | 6.99 | 10.70 | 5.72 |
| | | Total | 15 | 19.80 | 6.60 | 11.87 | 4.32 | 21.07 | 6.39 | 11.27 | 5.82 |
| | high | female | 16 | 20.81 | 4.59 | 10.50 | 3.12 | 20.63 | 5.32 | 8.31 | 4.30 |
| | | male | 5 | 14.00 | 8.22 | 10.60 | 5.37 | 19.00 | 5.24 | 12.20 | 7.53 |
| | | Total | 21 | 19.19 | 6.18 | 10.52 | 3.61 | 20.24 | 5.21 | 9.24 | 5.30 |
| | Total | female | 21 | 21.52* | 4.65 | 10.62 | 3.23 | 21.24 | 5.22 | 9.29 | 5.06 |
| | | male | 15 | 16.53* | 7.20 | 11.73 | 4.77 | 19.67 | 6.29 | 11.20 | 6.14 |
| | | Total | 36 | 19.44 | 6.27 | 11.08 | 3.92 | 20.58 | 5.66 | 10.08 | 5.54 |
| Empathic Concern | | | | | | | | | | | |
| | low-neutral | female | 2 | 13.00 | 8.49 | 14.00 | 7.07 | 9.50 | 9.19 | 6.00 | 4.24 |
| | | male | 8 | 16.25 | 6.50 | 12.00 | 3.38 | 18.63 | 7.27 | 11.00 | 5.66 |
| | | Total | 10 | 15.60 | 6.54 | 12.40 | 3.89 | 16.80 | 8.08 | 10.00 | 5.60 |
| | high | female | 29 | 20.10 | 5.70 | 10.59 | 3.15 | 20.14 | 6.01 | 9.10 | 4.72 |
| | | male | 16 | 17.00 | 6.35 | 11.69 | 4.95 | 19.19 | 5.88 | 10.31 | 5.85 |
| | | Total | 45 | 19.00 | 6.06 | 10.98 | 3.86 | 19.80 | 5.91 | 9.53 | 5.12 |
| | Total | female | 31 | 19.65 | 5.99 | 10.81 | 3.41 | 19.45 | 6.60 | 8.90 | 4.69 |
| | | male | 24 | 16.75 | 6.26 | 11.79 | 4.41 | 19.00 | 6.22 | 10.54 | 5.67 |
| | | Total | 55 | 18.38 | 6.23 | 11.24 | 3.87 | 19.25 | 6.38 | 9.62 | 5.16 |
| Perspective -taking | | | | | | | | | | | |
| | low-neutral | | 18 | 17.83 | 6.33 | 12.17 | 4.15 | 18.00 | 7.61 | 10.56 | 5.23 |
| | high | | 35 | 18.71 | 6.42 | 10.77 | 3.69 | 19.69 | 5.82 | 9.23 | 5.13 |
| | Total | | 53 | 18.42 | 6.34 | 11.24 | 3.87 | 19.11 | 6.45 | 9.68 | 5.15 |
| Personal Distress | | | | | | | | | | | |
| | low | | 44 | 17.95 | 6.56 | 11.14 | 4.08 | 19.48 | 6.77 | 9.55 | 5.17 |
| | neutral | | 10 | 19.50 | 4.28 | 11.80 | 3.12 | 18.20 | 4.87 | 10.60 | 5.10 |
| | Total | | 54 | 18.24 | 6.19 | 11.26 | 3.90 | 19.24 | 6.45 | 9.74 | 5.13 |

$^{*}p < .05$

*Failure recovery scenario – within Coach-as-Coach (CC) condition.* A separate 2 x 2 MANCOVA (level of empathy by sex co-varied with coaches' perception of the recovery's outcome) was conducted for the fantasy (FS) and empathic concern (EC) scales of the IRI for a total of two analyses. A separate oneway MANCOVA (level of empathy co-varied with coaches' perception of the recovery's outcome) was conducted for the perspective-taking (PT) and personal distress (PD) scales of the IRI for a total of two analyses. (See Tables 20 and 21 for Wilks' Lambda and descriptive statistics.) Wilks' Lambda revealed that participants' sex did not have an overall main effect on coaches' causal attributions for either the fantasy scale, $\Lambda = .90$, $F\,(3, 31) = .77$, $p = .56$, $\eta^2 = .10$, or the empathic concern scale, $\Lambda = .84$, $F\,(3, 49) = 2.14$, $p = .09$, $\eta^2 = .10$. The interaction of participants' sex with levels of fantasy did not have a significant effect on coaches' causal ascriptions, $\Lambda = .86$, $F\,(3, 31) = 1.11$, $p = .37$, $\eta^2 = .16$. Also, the interaction of participants' sex with levels of empathic concern did not have a significant effect on coaches' causal ascriptions, $\Lambda = .99$, $F\,(3, 49) = .10$, $p = .98$, $\eta^2 = .01$. Furthermore, Wilks' Lambda revealed that the covariate effect of coaches' recovery outcome belief on their causal attributions was not significant for any IRI scale analysis. Also, contrary to the research hypothesis, levels of empathy did not have an overall significant main effect on the causal attributions of coaches within the CC condition (see Tables 20 and 21).

Table 20

*For the Failure Recovery Scenario – Within the CC Condition, Overall Covariate Effect of Recovery Outcome Belief and Main Effect of Levels of Empathy on Coaches' Causal Attributions for Each Separate MANCOVA Analysis of the IRI Scales*

| | | Covariate Effect on Coaches in the CC Condition's Causal Attributions | | | | Main Effect of Levels of Empathy on Coaches in the CC Condition's Causal Attributions | | | |
|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | *df1, 2* | $\Lambda$ | *F* | *p* | $\eta^2$ | $\Lambda$ | *F* | *p* | $\eta^2$ |
| Fantasy | 3, 31 | .91 | 0.65 | .63 | .06 | .96 | 0.32 | .86 | .05 |
| Empathic Concern | 3, 49 | .94 | 0.67 | .60 | .06 | .84 | 2.14 | .09 | .16 |
| Perspective-taking | 1, 48 | .88 | 1.51 | .22 | .12 | .93 | 0.89 | .48 | .08 |
| Personal Distress | 1, 51 | .90 | 1.31 | .28 | .10 | .99 | 0.17 | .95 | .01 |

Table 21

*For the Failure Recovery Scenario – Within the CC Condition, CDSII Descriptive Statistics by Levels of Empathy with Coaches' Recovery Outcome Belief as the Covariate*

| | | | | CDSII Scale | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IRI Scale | Level of Empathy | Sex | | Locus of Cause | | Stability | | Personal Control | | External Control | |
| | | | *N* | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Fantasy | | | | | | | | | | | |
| | low | female | 9 | 7.44 | 4.80 | 8.67 | 4.97 | 12.11 | 7.20 | 13.89 | 6.13 |
| | | male | 7 | 9.29 | 6.05 | 10.43 | 6.60 | 13.71 | 5.50 | 21.43 | 2.99 |
| | | Total | 16 | 8.25 | 5.27 | 9.44 | 5.61 | 12.81 | 6.36 | 17.19 | 6.21 |
| | high | female | 15 | 11.67 | 3.46 | 9.93 | 3.67 | 13.80 | 3.78 | 16.00 | 6.34 |
| | | male | 4 | 7.75 | 3.50 | 9.75 | 4.50 | 11.25 | 7.85 | 17.50 | 9.54 |
| | | Total | 19 | 10.84 | 3.75 | 9.89 | 3.73 | 13.26 | 4.75 | 16.32 | 6.84 |
| | Total | female | 24 | 10.08 | 4.43 | 9.46 | 4.15 | 13.17 | 5.24 | 15.21 | 6.21 |
| | | male | 11 | 8.73 | 5.12 | 10.18 | 5.69 | 12.82 | 6.18 | 20.00 | 6.05 |
| | | Total | 35 | 9.66 | 4.63 | 9.69 | 4.61 | 13.06 | 5.46 | 16.71 | 6.48 |
| Empathic Concern | | | | | | | | | | | |
| | low-neutral | female | 5 | 10.00 | 5.83 | 7.00 | 4.24 | 10.60 | 5.73 | 13.20 | 4.71 |
| | | male | 5 | 10.20 | 2.95 | 8.80 | 2.77 | 12.60 | 4.72 | 17.80 | 8.11 |
| | | Total | 10 | 10.10 | 4.36 | 7.90 | 3.51 | 11.60 | 5.06 | 15.50 | 6.70 |
| | high | female | 30 | 10.87 | 5.44 | 9.53 | 3.77 | 14.00 | 5.91 | 16.37 | 5.80 |
| | | male | 13 | 9.00 | 5.55 | 11.23 | 5.34 | 13.77 | 6.60 | 19.08 | 5.75 |
| | | Total | 43 | 10.30 | 5.48 | 10.05 | 4.31 | 13.93 | 6.05 | 17.19 | 5.85 |
| | Total | female | 35 | 10.74 | 5.41 | 9.17 | 3.88 | 13.51 | 5.93 | 15.91 | 5.71 |
| | | male | 18 | 9.33 | 4.91 | 10.56 | 4.82 | 13.44 | 6.02 | 18.72 | 6.26 |
| | | Total | 53 | 10.26 | 5.24 | 9.64 | 4.22 | 13.49 | 5.90 | 16.87 | 5.99 |
| Perspective-taking | | | | | | | | | | | |
| | low-neutral | | 13 | 9.77 | 6.25 | 8.15 | 3.31 | 13.54 | 5.99 | 17.15 | 6.12 |
| | high | | 37 | 10.46 | 5.12 | 10.08 | 4.31 | 13.54 | 6.11 | 16.78 | 5.95 |
| | Total | | 50 | 10.28 | 3.58 | 9.59 | 4.13 | 13.54 | 6.02 | 16.80 | 5.93 |
| Personal Distress | | | | | | | | | | | |
| | low | | 37 | 10.54 | 5.56 | 9.62 | 4.52 | 13.78 | 6.04 | 16.84 | 5.92 |
| | neutral | | 16 | 9.63 | 4.53 | 9.69 | 3.57 | 12.81 | 5.69 | 16.94 | 6.34 |
| | Total | | 53 | 10.26 | 5.24 | 9.64 | 4.22 | 13.49 | 5.90 | 16.87 | 5.99 |

In summary, within perspective-taking conditions, levels of empathy did not have a significant effect on coaches' attributions for the cause of the athlete's successful or failed recovery for any scale of the IRI. The lack of significant differences in coaches' causal attributions between levels of empathy do not support the third research hypothesis stated in this study.

*Hypothesis 4.* It was expected that between perspective-taking conditions (CA and CC), coaches with a history of a moderate or major sport injury would attribute the cause of the recovery outcome to external factors more so than coaches who had none or a minor sport injury when an athlete. Statistical support for this hypothesis was not found for either the successful or failure recovery scenarios.

For the successful recovery outcome, a 2 x 2 MANCOVA (perspective-taking condition by coaches' injury severity with the order of descriptive scenarios as a covariate) was conducted to test differences in coaches' causal attributions. Wilks' Lambda revealed that the order in which coaches were exposed to the descriptive recovery scenarios had a significant covariate effect on coaches' causal ascriptions, $\Lambda = .85$, $F\,(3, 107) = 4.62$, $p = .002$, $\eta^2 = .15$. Also, the perspective-taking condition had a significant main effect on coaches' ascriptions of cause for the successful recovery scenario, $\Lambda = .56$, $F\,(3, 107) = 20.33$, $p < .001$, $\eta^2 = .44$. More specifically, test of between-subjects effects revealed that the causal attributions for their successful recovery given by coaches in the CA condition were more internal, $F\,(1, 111) = 65.61$, $p < .001$, $\eta^2 = .38$, more stable, $F\,(1, 111) = 11.17$, $p < .001$, $\eta^2 = .10$, and of greater personal control, $F\,(1, 111) = 57.40$, $p < .001$, $\eta^2 = .35$, in comparison to the causal attributions given by coaches in the CC condition for their athlete's successful recovery (see Table 22 for means and standard deviations). Coaches in the CC condition reported that the cause of their athlete's successful recovery was of greater external control in comparison to coaches in the CA condition's causal ascriptions for their successful recovery, $F(1, 111) = 16.73, p < .001, \eta^2 = .14$. However, Wilks' Lambda revealed that the severity of the injury coaches experienced while they were an athlete (none/minor or moderate/major) did not have an overall significant effect on their causal attributions, $\Lambda = .98, F(3, 107) = 0.47, p = .76, \eta^2 = .02$. Also, the interaction of perspective-taking condition with coaches' injury severity did not have a significant effect on their causal attributions for the successful recovery scenario, $\Lambda = .99, F(3, 107) = 0.26, p = .91, \eta^2 = .01$.

Table 22

*For the Successful Recovery Scenario, CDSII Descriptive Statistics for the 2 x 2 MANCOVA Perspective-taking Condition by Coaches' Injury Severity with the Order of CDSII as the Covariate*

| *CDSII Scale* | *Perspective-taking Condition* | *Injury Severity* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Causality | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 11.62 | 6.21 |
| | | moderate or major injury | 41 | 9.98 | 6.07 |
| | | Total | 54 | 10.37** | 6.09 |
| | Coach-as-Athlete | none or minor injury | 14 | 21.07 | 4.41 |
| | | moderate or major injury | 43 | 21.00 | 5.61 |
| | | Total | 57 | 21.02** | 5.30 |
| | Total | none or minor injury | 27 | 16.52 | 7.12 |
| | | moderate or major injury | 84 | 15.62 | 8.03 |
| | | Total | 111 | 15.84 | 7.79 |
| Stability | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 13.23 | 3.49 |
| | | moderate or major injury | 41 | 12.98 | 4.94 |
| | | Total | 54 | 13.04** | 4.60 |
| | Coach-as-Athlete | none or minor injury | 14 | 16.36 | 4.31 |
| | | moderate or major injury | 43 | 17.00 | 5.50 |
| | | Total | 57 | 16.84** | 5.20 |
| | Total | none or minor injury | 27 | 14.85 | 4.18 |
| | | moderate or major injury | 84 | 15.04 | 5.58 |
| | | Total | 111 | 14.99 | 5.26 |

Table 22 (*continued*)

| CDSII Scale | Perspective-taking Condition | Injury Severity | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Personal Control | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 12.69 | 4.48 |
| | | moderate or major injury | 41 | 11.85 | 6.17 |
| | | Total | 54 | 12.06** | 5.78 |
| | Coach-as-Athlete | none or minor injury | 14 | 20.79 | 5.82 |
| | | moderate or major injury | 43 | 22.26 | 4.95 |
| | | Total | 57 | 21.89** | 5.16 |
| | Total | none or minor injury | 27 | 16.89 | 6.57 |
| | | moderate or major injury | 84 | 17.18 | 7.62 |
| | | Total | 111 | 17.11 | 7.35 |
| External Control | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 19.15 | 5.65 |
| | | moderate or major injury | 41 | 18.41 | 7.05 |
| | | Total | 54 | 18.59** | 6.69 |
| | Coach-as-Athlete | none or minor injury | 14 | 12.43 | 5.79 |
| | | moderate or major injury | 43 | 13.19 | 6.40 |
| | | Total | 57 | 13.00** | 6.22 |
| | Total | none or minor injury | 27 | 15.67 | 6.58 |
| | | moderate or major injury | 84 | 15.74 | 7.18 |
| | | Total | 111 | 15.72 | 7.01 |

$^{**}p < .01$

For the failed recovery scenario, a 2 x 2 MANCOVA (perspective-taking condition by coaches' injury severity with coaches' recovery outcome beliefs as a covariate) was conducted to test differences in coaches' causal attributions. Wilks' Lambda revealed that, overall, coaches' recovery outcome beliefs for the failure scenario did not have a significant covariate effect on their causal ascriptions, $\Lambda = .92$, $F(3, 105) = 2.16$, $p = .08$, $\eta^2 = .08$. However, the perspective-taking condition had a significant main effect on coaches' ascriptions of cause for the failed recovery scenario, $\Lambda = .60$, $F(3, 105) = 16.88$, $p < .001$, $\eta^2 = .40$. More specifically, test of between-subjects effects revealed that the causal attributions for their failed recovery given by coaches in the CA condition were more internal, $F(1, 109) = 41.04$, $p < .001$, $\eta^2 = .28$ and of greater personal control, $F(1, 109) = 14.47$, $p < .001$, $\eta^2 = .12$, in comparison to the causal attributions given by coaches in the CC condition for their athlete's successful recovery (see Table 23 for means and standard deviations). Also, coaches in the CC condition responded that the cause of their athlete's successful recovery was of greater external control in comparison to coaches in the CA condition's causal ascriptions for their successful recovery, $F(1, 109) = 32.58$, $p < .001$, $\eta^2 = .24$. However, between perspective-taking conditions, coaches' attribution of stability to the cause of the failed recovery did not significantly differ, $F(1, 109) = 3.53$, $p = .06$, $\eta^2 = .03$. Like the covariate, Wilks' Lambda revealed that the severity of the injury coaches experienced while they were an athlete (none/minor or moderate/major) did not have a significant overall effect on their causal attributions for the failed recovery scenario, $\Lambda = .93$, $F(3, 105) = 2.03$, $p = .10$, $\eta^2 = .07$. Also, contrary to the research hypothesis, the interaction of perspective-taking condition with coaches' injury severity did not have a significant overall effect on their causal attributions, $\Lambda = .99$, $F(3, 105) = 0.20$, $p = .94$, $\eta^2 = .01$.

Table 23

*For the Failed Recovery Scenario, CDSII Descriptive Statistics for the 2 x 2 MANCOVA Perspective-taking Condition by Coaches' Injury Severity with Coaches' Recovery Outcome Belief as the Covariate*

| *CDSII Scale* | *Perspective-taking Condition* | *Injury Severity* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 12.69 | 5.19 |
| | | moderate or major injury | 41 | 9.54 | 5.03 |
| | | Total | 54 | 10.30*** | 5.20 |
| | Coach-as-Athlete | none or minor injury | 14 | 20.57 | 4.47 |
| | | moderate or major injury | 41 | 17.63 | 6.60 |
| | | Total | 55 | 18.38*** | 6.23 |
| | Total | none or minor injury | 27 | 16.78 | 6.20 |
| | | moderate or major injury | 82 | 13.59 | 7.11 |
| | | Total | 109 | 14.38 | 7.01 |
| Stability | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 9.54 | 3.18 |
| | | moderate or major injury | 41 | 9.78 | 4.54 |
| | | Total | 54 | 9.72 | 4.23 |
| | Coach-as-Athlete | none or minor injury | 14 | 11.57 | 3.37 |
| | | moderate or major injury | 41 | 11.12 | 4.06 |
| | | Total | 55 | 11.24 | 3.87 |
| | Total | none or minor injury | 27 | 10.59 | 3.38 |
| | | moderate or major injury | 82 | 10.45 | 4.34 |
| | | Total | 109 | 10.49 | 4.10 |

Table 23 (*continued*)

| *CDSII Scale* | *Perspective-taking Condition* | *Injury Severity* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Personal Control | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 15.15 | 6.19 |
| | | moderate or major injury | 41 | 13.20 | 5.92 |
| | | Total | 54 | 13.67*** | 5.99 |
| | Coach-as-Athlete | none or minor injury | 14 | 19.43 | 4.96 |
| | | moderate or major injury | 41 | 19.20 | 6.86 |
| | | Total | 55 | 19.25*** | 6.38 |
| | Total | none or minor injury | 27 | 17.37 | 5.89 |
| | | moderate or major injury | 82 | 16.20 | 7.05 |
| | | Total | 109 | 16.49 | 6.77 |
| External Control | | | | | |
| | Coach-as-Coach | none or minor injury | 13 | 16.00 | 6.03 |
| | | moderate or major injury | 41 | 17.02 | 6.01 |
| | | Total | 54 | 16.78*** | 5.97 |
| | Coach-as-Athlete | none or minor injury | 14 | 9.00 | 5.31 |
| | | moderate or major injury | 41 | 9.83 | 5.16 |
| | | Total | 55 | 9.62*** | 5.16 |
| | Total | none or minor injury | 27 | 12.37 | 6.60 |
| | | moderate or major injury | 82 | 13.43 | 6.64 |
| | | Total | 109 | 13.17 | 6.61 |

***$p < .001$

*Hypothesis 5.* It was expected that the type of sport injury coaches experienced as an athlete would affect their assignment of causality. More specifically, it was hypothesized that between perspective-taking conditions coaches who experienced a career-ending injury would attribute the cause of the recovery outcomes differently than coaches whose sport injury was not career-ending. Statistical support for this hypothesis was not found for either the successful or failed recovery scenario.

For the successful recovery scenario, a 2 x 2 MANCOVA (perspective-taking condition by injury type with the order of the descriptive scenario as a covariate) was conducted to test differences in coaches' causal attributions due to the interaction of perspective-taking condition with their injury's type (career-ending or not career-ending). Wilks' Lambda revealed that the order in which coaches were exposed to the descriptive scenarios had a significant covariate effect on coaches' causal attributions, $\Lambda = .85$, $F\,(3, 97) = 4.11$, $p = .004$, $\eta^2 = .15$. Test of between-subjects effects further revealed that the order in which coaches were exposed to the descriptive scenarios had a significant covariate effect on their application of the locus of causality, $F\,(1, 101) = 11.59$, $p = .001$, $\eta^2 = .11$, and personal control, $F\,(1, 101) = 6.72$, $p = .01$, $\eta^2 = .07$ (see Table 24 for descriptive statistics). As expected, perspective-taking condition had a significant main effect on coaches' causal attributions for the successful recovery scenario, $\Lambda = .80$, $F\,(3, 97) = 5.99$, $p < .001$, $\eta^2 = .21$. Test of between-subjects effects revealed that coaches in the CA condition ascribed the cause of their successful recovery to be more internal, $F\,(1, 101) = 18.20$, $p < .001$, $\eta^2 = .16$, more stable, $F\,(1, 101) = 4.63$, $p = .03$, $\eta^2 = .05$, and of greater personal control, $F\,(1, 101) = 19.49$, $p < .001$, $\eta^2 = .17$, in comparison to coaches in the CC condition's attributions for the cause of their athlete's successful recovery (see Table 24 for descriptive statistics). However, Wilks' Lambda also revealed that the type of injury coaches experienced while they were an athlete (career-ending or not career-ending) did not have a significant overall effect on their causal attributions for the successful recovery scenario, $\Lambda = .96$, $F\,(3, 97) = 0.86$, $p = .49$, $\eta^2 = .04$. Also, contrary to the research hypothesis, the interaction of perspective-taking condition with coaches' injury type did not have a significant overall effect on their causal attributions, $\Lambda = .10$, $F$ $(3, 97) = 0.09$, $p = .98$, $\eta^2 = .00$.

Table 24

*For the Successful Recovery Scenario, CDSII Descriptive Statistics for the 2 x 2 MANCOVA Perspective-taking Condition by Coaches' Injury Type with the Order of CDSII as the Covariate*

| *CDSII Scale* | *Perspective-taking Condition* | *Injury Type* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | Coach-as-Coach | career-ending | 4 | 14.75 | 9.39 |
| | | not career-ending | 45 | 9.87 | 5.78 |
| | | Total | 49 | 10.27*** | 6.16 |
| | Coach-as-Athlete | career-ending | 3 | 22.33 | 5.03 |
| | | not career-ending | 49 | 20.96 | 5.39 |
| | | Total | 52 | 21.04*** | 5.34 |
| | Total | career-ending | 7 | 18.00 | 8.31 |
| | | not career-ending | 94 | 15.65 | 7.86 |
| | | Total | 101 | 15.81 | 7.87 |
| Stability | | | | | |
| | Coach-as-Coach | career-ending | 4 | 13.25 | 4.92 |
| | | not career-ending | 45 | 12.87 | 4.78 |
| | | Total | 49 | 12.90* | 4.74 |
| | Coach-as-Athlete | career-ending | 3 | 17.33 | 1.15 |
| | | not career-ending | 49 | 17.24 | 5.30 |
| | | Total | 52 | 17.25* | 5.15 |
| | Total | career-ending | 7 | 15.00 | 4.16 |
| | | not career-ending | 94 | 15.15 | 5.49 |
| | | Total | 101 | 15.14 | 5.39 |

Table 24 (*continued*)

| *CDSII Scale* | *Perspective-taking Condition* | *Injury Type* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Personal Control | | | | | |
| | Coach-as-Coach | career-ending | 4 | 16.00 | 10.17 |
| | | not career-ending | 45 | 11.47 | 5.37 |
| | | Total | 49 | 11.84*** | 5.87 |
| | Coach-as-Athlete | career-ending | 3 | 24.00 | 2.65 |
| | | not career-ending | 49 | 21.94 | 5.01 |
| | | Total | 52 | 22.06*** | 4.92 |
| | Total | career-ending | 7 | 19.43 | 8.50 |
| | | not career-ending | 94 | 16.93 | 7.37 |
| | | Total | 101 | 17.10 | 7.43 |
| External Control | | | | | |
| | Coach-as-Coach | career-ending | 4 | 21.25 | 5.91 |
| | | not career-ending | 45 | 18.53 | 7.01 |
| | | Total | 49 | 18.76 | 6.91 |
| | Coach-as-Athlete | career-ending | 3 | 15.67 | 2.08 |
| | | not career-ending | 49 | 13.12 | 6.36 |
| | | Total | 52 | 13.27 | 6.21 |
| | Total | career-ending | 7 | 18.86 | 5.27 |
| | | not career-ending | 94 | 15.71 | 7.17 |
| | | Total | 101 | 15.93 | 7.08 |

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

For the failed recovery scenario, a 2 x 2 MANCOVA (perspective-taking condition by coaches' injury type with coaches' recovery outcome beliefs as a covariate) was conducted to test differences in coaches' causal attributions. Wilks' Lambda revealed that coaches' belief about the failed recovery's outcome (as failure or success) did not have a significant covariate effect on their causal ascriptions, $\Lambda = .91$, $F(3, 95) = 2.22$, $p = .07$, $\eta^2 = .09$. As expected, perspective-taking condition had a significant main effect on coaches' causal attributions for the failed recovery scenario, $\Lambda = .82$, $F(3, 95) = 5.05$, $p < .001$, $\eta^2 = .18$. Test of between-subjects effects revealed that coaches in the CA condition ascribed the cause of their failed recovery to be more internal, $F(1, 99) = 6.64$, $p = .01$, $\eta^2 = .07$, and of less external control, $F(1, 99) = 12.46$, $p < .001$, $\eta^2 = .12$ in comparison to coaches in the CC condition's attributions for the cause of their athlete's failed recovery (see Table 25 for descriptive statistics). Coaches' attribution of stability, $F(1, 99) = 0.35$, $p = .56$, $\eta^2 = .00$, and personal control, $F(1, 99) = 1.68$, $p = .19$, $\eta^2 = .02$ did not differ between perspective-taking conditions. However, Wilks' Lambda also revealed that the type of injury coaches experienced while they were an athlete (career-ending or not career-ending) did not have a significant overall effect on their causal attributions for the failed recovery scenario, $\Lambda = .97$, $F(3, 95) = 0.68$, $p = .61$, $\eta^2 = .03$. Also, contrary to the research hypothesis, the interaction of perspective-taking condition with coaches' injury type did not have a significant overall effect on their causal attributions, $\Lambda = .94$, $F(3, 95) = 1.56$, $p = .19$, $\eta^2 = .06$.

Table 25

*For the Failed Recovery Scenario, CDSII Descriptive Statistics for the 2 x 2 MANCOVA Perspective-taking Condition by Coaches' Injury Type with Coaches' Recovery Outcome Belief as the Covariate*

| *CDSII Scale* | *Perspective-taking Condition* | *Injury Type* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | Coach-as-Coach | career-ending | 4 | 14.00 | 4.55 |
| | | not career-ending | 45 | 9.33 | 4.85 |
| | | Total | 49 | 9.71* | 4.95 |
| | Coach-as-Athlete | career-ending | 3 | 16.67 | 6.66 |
| | | not career-ending | 47 | 18.06 | 6.38 |
| | | Total | 50 | 17.98* | 6.34 |
| | Total | career-ending | 7 | 15.14 | 5.21 |
| | | not career-ending | 92 | 13.79 | 7.16 |
| | | Total | 99 | 13.89 | 7.02 |
| Stability | | | | | |
| | Coach-as-Coach | career-ending | 4 | 15.25 | 5.97 |
| | | not career-ending | 45 | 9.00 | 3.88 |
| | | Total | 49 | 9.51 | 4.36 |
| | Coach-as-Athlete | career-ending | 3 | 10.67 | 3.79 |
| | | not career-ending | 47 | 11.47 | 3.92 |
| | | Total | 50 | 11.42 | 3.88 |
| | Total | career-ending | 7 | 13.29 | 5.35 |
| | | not career-ending | 92 | 10.26 | 4.07 |
| | | Total | 99 | 10.47 | 4.21 |

Table 25 (*continued*)

| *CDSII Scale* | *Perspective-taking Condition* | *Injury Type* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Personal Control | | | | | |
| | Coach-as-Coach | career-ending | 4 | 17.00 | 3.16 |
| | | not career-ending | 45 | 12.96 | 5.90 |
| | | Total | 49 | 13.29 | 5.82 |
| | Coach-as-Athlete | career-ending | 3 | 16.67 | 7.51 |
| | | not career-ending | 47 | 19.32 | 6.58 |
| | | Total | 50 | 19.16 | 6.58 |
| | Total | career-ending | 7 | 16.86 | 4.88 |
| | | not career-ending | 92 | 16.21 | 7.00 |
| | | Total | 99 | 16.25 | 6.85 |
| External Control | | | | | |
| | Coach-as-Coach | career-ending | 4 | 18.50 | 3.32 |
| | | not career-ending | 45 | 16.73 | 6.34 |
| | | Total | 49 | 16.88*** | 6.15 |
| | Coach-as-Athlete | career-ending | 3 | 8.33 | 6.11 |
| | | not career-ending | 47 | 9.98 | 5.15 |
| | | Total | 50 | 9.88*** | 5.15 |
| | Total | career-ending | 7 | 14.14 | 6.89 |
| | | not career-ending | 92 | 13.28 | 6.66 |
| | | Total | 99 | 13.34 | 6.65 |

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

*Hypothesis 6.* It was hypothesized that coaches within the perspective-taking conditions (CA or CC) having high IRI scale scores and having experienced a moderate or a major sport injury would attribute the cause of athletes' recovery outcomes to external factors more so than coaches with low IRI scale scores and having experienced none or a minor sport injury. To test the interaction effect of injury severity with levels of dispositional empathy on coaches' causal attributions, sixteen separate MANCOVA analyses were conducted – eight for each of the descriptive recovery scenarios. For the successful recovery scenario and within each perspective-taking condition, a separate 2 x 2 x 2 MANCOVA (injury severity by level of empathy by sex co-varied with order of descriptive recovery scenario) was conducted for the fantasy and empathic concern scales of the IRI analyses of CDSII scores. A separate 2 x 2 MANCOVA (injury severity by level of empathy co-varied with order of descriptive recovery scenarios) was conducted for the perspective-taking and personal distress scales of the IRI. For the recovery failure scenario and within each perspective-taking condition, a separate 2 x 2 x 2 MANCOVA (injury severity by level of empathy by sex co-varied with coaches' perception of the recovery's outcome) was conducted for the fantasy and empathic concern scales of the IRI. A separate 2 x 2 MANCOVA (injury severity by level of empathy co-varied with coaches' perception of the recovery's outcome) was conducted for the perspective-taking and personal distress scales of the IRI. The following is a review of the significant covariate, main, and interaction effects that were found. The results for the successful recovery scenario are described first, followed by those of the recovery failure scenario.

For the successful recovery scenario, no significant sex effect was found within the perspective-taking conditions. However, Wilks' Lambda further revealed that the covariate variable, order of exposure to the descriptive recovery scenarios, had a significant effect on only coaches in the Coach-as-Coach (CC) condition's causal attributions. More specifically, the order of exposure to the recovery scenarios affects the causal responses of coaches in the CC condition for the Perspective-Taking, and Personal Distress scales of the IRI (see Table 26 for Wilks' test statistics and Appendix H, Tables H1 - H8 for descriptive statistics). Between-subjects analyses within the CC condition further revealed that the covariate variable had a significant effect on coaches' ascriptions of locus of causality (LOC) for the perspective-taking (PT), $F(1, 53) = 5.12, p = .03, \eta^2 = .08$, and personal distress, $F(1, 53) = 8.13, p = .01, \eta^2 = .15$, scales of the IRI (see Appendix H, Tables H1 - H4 for descriptive statistics). No other significant effects of the covariate variable were found within the CC condition. Also, the covariate variable did not have a significant overall effect on coaches within the Coach-as-Athlete (CA) condition's causal attributions for any scale of the IRI (see Table 26 and Appendix H, Tables H5 - H8).

Wilks' Lambda analyses of the main effects of coaches' injury severity and levels of empathy and their interaction (injury severity x level of empathy) did not significantly differentiate coaches' attributions for the cause of the athletes' successful recovery (see Table 26 for Wilks' test statistics and Appendix H, Tables H9 - H16 for descriptive statistics). Thus, support for this research hypothesis for the successful recovery scenario was not found.

Table 26

*For the Successful Recovery Scenario, Main Effect of Injury Severity and Level of Empathy and their Interaction on Coaches' Causal Attributions within the Perspective-taking Conditions*

| *Independent Variable* | *Perspective-taking Condition* | *IRI Scale* | *df1* | *df2* | *Wilks' Λ* | *F* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|
| Order of CDSII Scenarios (covariate) | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 26 | 0.84 | 1.05 | 0.40 | .16 |
| | | Empathic Concern | 7 | 45 | 0.82 | 2.24 | 0.08 | .18 |
| | | Perspective-taking | 3 | 49 | 0.77 | 3.30* | 0.02 | .21 |
| | | Personal Distress | 3 | 49 | 0.74 | 4.02* | 0.01 | .26 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 30 | 0.89 | 0.84 | 0.51 | .11 |
| | | Empathic Concern | 7 | 49 | 0.90 | 1.31 | 0.28 | .06 |
| | | Perspective-taking | 3 | 53 | 0.88 | 1.55 | 0.20 | .12 |
| | | Personal Distress | 3 | 52 | 0.87 | 1.75 | 0.15 | .13 |
| Injury Severity | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 26 | 0.96 | 0.20 | 0.94 | .03 |
| | | Empathic Concern | 7 | 45 | 0.87 | 0.32 | 0.86 | .03 |
| | | Perspective-taking | 3 | 49 | 0.96 | 0.43 | 0.78 | .04 |
| | | Personal Distress | 3 | 49 | 0.99 | 0.10 | 0.98 | .01 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 30 | 0.72 | 2.26 | 0.09 | .27 |
| | | Empathic Concern | 7 | 49 | 0.97 | 0.38 | 0.82 | .04 |
| | | Perspective-taking | 3 | 53 | 0.96 | 0.55 | 0.70 | .05 |
| | | Personal Distress | 3 | 52 | 1.00 | 0.03 | 1.00 | .00 |

Table 26 (*continued*)

| *Independent Variable* | *Perspective-taking Condition* | *IRI Scale* | *df1* | *df2* | *Wilks' Λ* | *F* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|
| IRI Group | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 26 | 0.84 | 0.99 | 0.44 | .15 |
| | | Empathic Concern | 7 | 45 | 0.95 | 0.57 | 0.69 | .05 |
| | | Perspective-taking | 3 | 49 | 0.96 | 0.42 | 0.80 | .04 |
| | | Personal Distress | 3 | 49 | 0.85 | 1.99 | 0.11 | .15 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 30 | 0.89 | 0.84 | 0.51 | .12 |
| | | Empathic Concern | 7 | 49 | 0.97 | 0.39 | 0.81 | .02 |
| | | Perspective-taking | 3 | 53 | 0.95 | 0.66 | 0.62 | .05 |
| | | Personal Distress | 3 | 52 | 0.98 | 0.27 | 0.90 | .02 |
| Injury Severity X IRI Group | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 26 | 0.89 | 0.70 | 0.60 | .11 |
| | | Empathic Concern | 7 | 45 | 0.92 | 0.92 | 0.46 | .08 |
| | | Perspective-taking | 3 | 49 | 0.95 | 0.53 | 0.71 | .05 |
| | | Personal Distress | 3 | 49 | 0.81 | 2.58 | 0.05 | .19 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 30 | 0.75 | 2.11 | 0.11 | .24 |
| | | Empathic Concern | 7 | 49 | 0.95 | 0.56 | 0.70 | .07 |
| | | Perspective-taking | 3 | 53 | 0.96 | 0.48 | 0.75 | .04 |
| | | Personal Distress | 3 | 52 | 0.92 | 1.10 | 0.37 | .08 |

$^*p < .05$

For the recovery failure scenario, only one significant sex effect was found within the perspective-taking conditions. That is, overall, within the CA condition for the empathic concern scale analysis, the interaction of sex with injury severity significantly affected coaches' attributions for the cause of their athlete's successful recovery, $\Lambda = .70$, $F(7, 47) = 4.57, p < .01, \eta^2 = .29$. However, the test of between-subjects effects did not reveal any specific CDSII scale that consisted of significant differences due to this overall interaction effect.

Similar to the successful recovery scenario, a lack of support was found for the sixth research hypothesis for the recovery failure scenario. Within the CC and CA conditions, the covariate variable, coaches' perception of the recovery's outcome (successful or a failure), did not significantly differentiate their attributions for the cause of the recovery's failure (see Table 27 for Wilks' test results). Neither the main effect of coaches' injury severity (none/minor vs. moderate/major) or the main effect of coaches' level of empathy on their causal attributions for the athlete's failed recovery was found to be significant for either the CC or CA conditions (see Table 27). Finally, and contrary to the proposed research hypothesis, the interaction of coaches' injury severity and level of empathy did not significantly affect participants' causal ascriptions for the athlete's failed recovery within either perspective-taking condition (see Table 27). Descriptive statistics for these analyses can be found in Appendix H, Tables H9 to H16.

Table 27

*For the Recovery Failure Scenario, Overall Covariate, Main and Interaction Effects of Test Variables on Coaches' Causal Attributions within the Perspective-Taking Conditions*

| *Independent Variable* | *Perspective-taking Condition* | *IRI Scale* | *df1* | *df2* | *Wilks' Λ* | *F* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|
| Perceived Recovery Outcome (covariate) | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 27 | .86 | 0.92 | .47 | .11 |
| | | Empathic Concern | 7 | 45 | .91 | 1.08 | .38 | .10 |
| | | Perspective-taking | 3 | 48 | .92 | 0.99 | .43 | .11 |
| | | Personal Distress | 3 | 49 | .91 | 1.12 | .36 | .09 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 29 | .92 | 0.57 | .69 | .11 |
| | | Empathic Concern | 7 | 47 | .85 | 1.96 | .12 | .18 |
| | | Perspective-taking | 3 | 49 | .95 | 0.57 | .69 | .05 |
| | | Personal Distress | 3 | 50 | .91 | 1.10 | .37 | .09 |
| Injury Severity | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 27 | .94 | 0.37 | .83 | .07 |
| | | Empathic Concern | 7 | 45 | .91 | 1.02 | .41 | .09 |
| | | Perspective-taking | 3 | 48 | .90 | 1.17 | .34 | .09 |
| | | Personal Distress | 3 | 49 | .91 | 1.12 | .36 | .09 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 29 | .82 | 1.36 | .28 | .23 |
| | | Empathic Concern | 7 | 47 | .93 | 0.77 | .55 | .06 |
| | | Perspective-taking | 3 | 49 | .84 | 2.14 | .09 | .06 |
| | | Personal Distress | 3 | 50 | .89 | 1.48 | .22 | .11 |

Table 27 (*continued*)

| *Independent Variable* | *Perspective-taking Condition* | *IRI Scale* | *df1* | *df2* | *Wilks' Λ* | *F* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|
| IRI Group | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 27 | .86 | 0.97 | .44 | .14 |
| | | Empathic Concern | 7 | 45 | .86 | 1.73 | .16 | .15 |
| | | Perspective-taking | 3 | 48 | .93 | 0.77 | .55 | .07 |
| | | Personal Distress | 3 | 49 | .93 | 0.87 | .49 | .07 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 29 | .91 | 0.65 | .63 | .12 |
| | | Empathic Concern | 7 | 47 | .81 | 2.46 | .06 | .20 |
| | | Perspective-taking | 3 | 49 | .95 | 0.54 | .71 | .05 |
| | | Personal Distress | 3 | 50 | .87 | 1.64 | .18 | .13 |
| Injury Severity X IRI Group | | | | | | | | |
| | Coach-as-Coach | | | | | | | |
| | | Fantasy | 7 | 27 | .86 | 0.75 | .57 | .10 |
| | | Empathic Concern | 7 | 45 | .89 | 1.27 | .30 | .11 |
| | | Perspective-taking | 3 | 48 | .84 | 2.06 | .10 | .16 |
| | | Personal Distress | 3 | 49 | .88 | 1.48 | .22 | .12 |
| | Coach-as-Athlete | | | | | | | |
| | | Fantasy | 6 | 29 | .93 | 0.47 | .76 | .02 |
| | | Empathic Concern | 7 | 47 | .91 | 1.01 | .41 | .09 |
| | | Perspective-taking | 3 | 49 | .93 | 0.89 | .48 | .07 |
| | | Personal Distress | 3 | 50 | .85 | 2.08 | .10 | .15 |

*Hypothesis 7.* It was expected that the successful recovery outcome would elicit different causal explanations by coaches in comparison to when the recovery outcome was a failure. A oneway ANOVA was conducted to analyze differences between CDSII scale mean differences between the two recovery scenarios. As hypothesized, participants ascribed greater stability and external control to the cause of the athlete's successful recovery in comparison to their attribution of these same dimensions of causality to the athlete's failed recovery (see Table 28). However, participants did not differ in their application of personal control to the cause of the successful or failed recovery outcome.

Table 28

*Oneway ANOVA Between Recovery Scenario Comparison of CDSII Scale Means*

| *CDSII Scale by Recovery Scenario* | *N* | *M* | *SD* | *F* | *df 1,2* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|
| Locus of Causality - Success | 111 | 15.88 | 7.79 | | | | |
| Locus of Causality - Failure | 112 | 14.48 | 6.95 | 1.88 | 1, 221 | .17 | .01 |
| Stability - Success | 111 | 14.99 | 5.27 | | | | |
| Stability - Failure | 112 | 10.52 | 4.06 | 50.67*** | 1, 221 | .00 | .19 |
| Personal Control - Success | 111 | 17.11 | 7.35 | | | | |
| Personal Control - Failure | 112 | 16.57 | 6.73 | 0.36 | 1, 221 | .55 | .00 |
| External Control - Success | 111 | 15.72 | 7.01 | | | | |
| External Control - Failure | 112 | 13.05 | 6.56 | 8.61** | 1, 221 | .00 | .04 |

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

However, because some participants believed the failed recovery to be a "success", further clarity was necessary. Therefore, participants who believed the failed recovery to be a "success" were excluded and the oneway ANOVA was run again.

Participants' scores of stability for the successful recovery scenario were higher than their ascription of stability and external control to the cause of the athlete's failed recovery (see Table 29). However, participants' application of external control for the cause of the recovery outcome for the two scenarios no longer significantly differed.

Table 29

*Oneway ANOVA Between Scenario Comparison of CDSII Scale Means Excluding Participants Who Believed the Failed Scenario was a "Success"*

| *CDSII Scale - Recovery Scenario* | *N* | *M* | *SD* | *F* | *df 1,2* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|
| Locus of Causality - Success | 111 | 15.88 | 7.79 | | | | |
| Locus of Causality - Failure | 75 | 14.29 | 7.17 | 1.87 | 1, 184 | .17 | .01 |
| Stability - Success | 111 | 14.99 | 5.27 | | | | |
| Stability - Failure | 75 | 10.57 | 4.32 | 36.38*** | 1, 184 | .00 | .17 |
| Personal Control - Success | 111 | 17.11 | 7.35 | | | | |
| Personal Control - Failure | 75 | 16.76 | 6.81 | 0.11 | 1, 184 | .75 | .00 |
| External Control - Success | 111 | 15.72 | 7.01 | | | | |
| External Control - Failure | 75 | 14.41 | 6.38 | 1.67 | 1, 184 | .20 | .01 |

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

Continuing to exclude participants who believed the failed recovery scenario to be a "success", two separate oneway ANOVAs of CDSII scale means for each of the recovery scenarios, but within perspective-taking conditions (CA and CC), were conducted to explain further the variance in coaches' causal explanations for a recovery outcome. With the exception of the locus of causality scores of participants in the Coach-as-Coach condition, as hypothesized, all other within perspective-taking condition comparisons of CDSII scale means were significantly different (see Table 30). Coaches in both the CC and CA conditions attributed greater stability to the cause of the successful recovery than to the failed recovery. No other significant differences between the recovery scenarios within the perspective-taking conditions were found.

Table 30

*Within Perspective-taking Condition, Between Recovery Scenario Oneway ANOVA of CDSII Scale Means Excluding Participants Who Believed the Failed Scenario was a "Success"*

| *Perspective-taking Condition* | *CDSII Scale – Recovery Scenario Pair* | *N* | *M* | *SD* | *F* | *df 1, 2* | *p* | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|
| Coach-as-Coach | | | | | | | | |
| | Locus of Causality - Success | 54 | 10.37 | 6.09 | | | | |
| | Locus of Causality - Failure | 40 | 10.48 | 5.43 | 0.01 | 1, 92 | .93 | .00 |
| | Stability – Success | 54 | 13.03 | 4.60 | | | | |
| | Stability – Failure | 40 | 10.15 | 4.28 | 9.59** | 1, 92 | .00 | .09 |
| | Personal Control – Success | 54 | 12.06 | 5.78 | | | | |
| | Personal Control – Failure | 41 | 13.98 | 6.39 | 2.31 | 1, 92 | .13 | .03 |
| | External Control – Success | 54 | 18.59 | 6.69 | | | | |
| | External Control – Failure | 41 | 17.70 | 5.52 | 0.47 | 1, 92 | .49 | .01 |
| Coach-as-Athlete | | | | | | | | |
| | Locus of Causality - Success | 57 | 21.20 | 5.30 | | | | |
| | Locus of Causality - Failure | 35 | 18.66 | 6.42 | 3.66 | 1, 90 | .06 | .04 |
| | Stability – Success | 57 | 16.84 | 5.20 | | | | |
| | Stability – Failure | 35 | 11.06 | 4.37 | 30.19*** | 1, 90 | .00 | .25 |
| | Personal Control – Success | 57 | 21.89 | 5.16 | | | | |
| | Personal Control – Failure | 35 | 19.94 | 5.88 | 2.79 | 1, 90 | .10 | .03 |
| | External Control – Success | 57 | 13.00 | 6.21 | | | | |
| | External Control - Failure | 35 | 10.66 | 5.14 | 3.50 | 1, 90 | .07 | .04 |

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

*Hypothesis 8.* After reading each descriptive scenario, participants were asked if they believed the athlete complied with the rehabilitation protocol. It was hypothesized that a main effect of coaches' belief about the athlete's rehabilitation behavior (compliant or non-compliant) on the causal dimension ascriptions by coaches would be found. That is, it was expected that coaches who believed the athlete complied with the rehabilitation protocol would attribute the cause of the recovery outcomes to external, situational factors more so than coaches who believed the athlete did not comply with the rehabilitation.

For the successful recovery scenario, a oneway MANCOVA (recovery behavior with the order of the descriptive scenarios as a covariate) was conducted to examine differences in coaches' causal ascriptions due to their differing belief about the athlete's recovery behavior. It should be noted that for this analysis, all participants' responses were grouped per descriptive recovery scenario, therefore creating a within scenario, between recovery behavior belief analysis. One hundred-eight participants believed the athlete complied with the rehabilitation protocol while three coaches stated the athlete was non-compliant with the rehabilitation. Thus, the MANCOVA results for the successful recovery scenario were not reported here because there were too few subjects who responded that the athlete was non-compliant.

For the recovery failure scenario, a oneway MANCOVA (recovery behavior with coaches' recovery outcome belief as a covariate) was conducted to examine differences in coaches' causal ascriptions due to their differing belief about the athlete's recovery behavior. Seventy-five participants believed the athlete complied with the rehabilitation protocol while 33 coaches stated the athlete was non-compliant with the rehabilitation. The covariate variable, coaches' perception of the failed recovery scenario, did not have a significant overall effect on coaches' causal attributions, $\Lambda = .93$, $F\,(1, 106) = 1.81$, $p =$

.13, $\eta^2 = .07$. However, as expected, coaches' belief about the outcome of the recovery (as success or failure) had a significant overall effect on their causal ascriptions for the failed recovery scenario, $\Lambda = .51$, $F(1, 106) = 10.29$, $p < .001$, $\eta^2 = .29$.

In further support of the eighth research hypothesis, the test of between-subjects test revealed that coaches' belief about the athlete's recovery behavior had a significant effect on their responses for all scales of the CDSII (see Table 31 for analysis of variance and descriptive statistics). As expected, coaches who believed the athlete complied with the rehabilitation protocol but still failed to recovery attributed less internal locus of causality and personal control to the failed recover than their cohorts who believed the athlete was non-compliant. However, unexpectedly, coaches who believed the athlete complied with the rehabilitation protocol also ascribed that the cause of the recovery failure was more stable than coaches who believed the athlete was non-compliant. Thus, for the failed recovery scenario, partial support for the research hypothesis was found.

Table 31

*For the Recovery Failure Scenario, Oneway MANCOVA Results of Coaches' Causal Attributions between Their Beliefs about the Athletes' Rehabilitation Behavior (Compliant or Non-Compliant) Controlling for Coaches' Belief about the Recovery's Outcome (as Success or Failure)*

| | Coaches' Rehabilitation Behavior Belief | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Compliant ($N$ = 75) | | Non-compliant ($N$ = 33) | | | | | |
| *Causal Attribution* | *M* | *SD* | *M* | *SD* | *df* | *F* | *p* | $\eta^2$ |
| Locus of Causality | 13.80 | 6.41 | 16.03 | 7.95 | 1 | 18.70*** | .000 | .26 |
| Stability | 10.69 | 4.02 | 10.12 | 4.34 | 1 | 22.66*** | .000 | .30 |
| Personal Control | 15.68 | 6.55 | 18.33 | 7.11 | 1 | 20.40*** | .000 | .28 |
| External Control | 12.41 | 6.24 | 14.51 | 7.07 | 1 | 4.11* | .019 | .07 |

**p* < .05; ****p* < .001

*Hypothesis 9.* Within perspective-taking condition differences in coaches' causal attributions due to their belief about the athletes' rehabilitation behavior were also expected. More specifically, it was expected that, within their perspective-taking conditions, coaches who believed the athlete complied with the rehabilitation protocol would attribute the cause of the recovery outcomes to external, situational factors more so than coaches who believed the athlete did not comply with the rehabilitation. To test this hypothesis, four separate MANCOVA analyses were conducted – two per recovery scenario, each within the perspective-taking conditions.

For the successful recovery scenario, two separate oneway MANCOVA analyses (recovery behavior with the order of the descriptive scenarios as a covariate) were conducted to examine within perspective-taking condition [coach-as-coach (CC), coach-as-athlete (CA)] differences in coaches' causal ascriptions due to their differing belief about the athlete's recovery behavior. Within the CC condition, 53 participants believed the athlete complied with the rehabilitation protocol while one coach stated the athlete was non-compliant with the rehabilitation. Within the CA condition, 55 participants believed the athlete complied with the rehabilitation protocol and two coaches stated the athlete was non-compliant with the rehabilitation. Thus, the MANCOVA results for the successful recovery scenario were not reported here because there were too few subjects within the perspective-taking conditions who responded that the athlete was non-compliant.

For the recovery failure scenario, two separate oneway MANCOVA analyses (recovery behavior with coaches' recovery outcome belief as a covariate) were conducted to examine within perspective-taking condition (CC and CA) differences in coaches' causal ascriptions due to their differing belief about the athlete's recovery behavior. Within the CC condition, 34 participants believed the athlete complied with the rehabilitation protocol and 19 coaches stated the athlete was non-compliant with the rehabilitation. Within the CA condition, 41 participants believed the athlete complied with the rehabilitation protocol and 14 coaches stated the athlete was non-compliant with the rehabilitation. Given these sample sizes per recovery behavior group for each perspective-taking condition, the following is a review of the significant covariate and main effects that were found, but should be interpreted with caution.

Within the CC condition, Wilks' Lambda revealed that coaches' belief about the recovery's outcome (as successful or a failure) did not have a significant effect as the covariate variable on coaches' causal ascriptions, $\Lambda = .90$, $F\,(1, 51) = 1.36$, $p = .27$, $\eta^2 = .10$. However, as hypothesized, coaches' beliefs regarding their athlete's recovery behavior had an overall effect on coaches' attributions for the cause of the failed recovery, $\Lambda = .59$, $F\,(1, 51) = 3.59$, $p = .001$, $\eta^2 = .23$. Test of between-subjects effects further revealed coaches' beliefs about their athlete's recovery behavior significantly differentiated their causal attributions for all scales of the CDSII (see Table 32 for statistics). Coaches within the CC condition who believed their athlete did not comply with the rehabilitation protocol attributed the cause of the failed recovery to factors that were of greater internal locus of causality, personal control, and external control in comparison to coaches who reported that athlete was compliant (see Table 32 for descriptive statistics). However, coaches within the CC condition who reported that the athlete did not comply with the rehabilitation protocol also ascribed that the cause of the failed recovery was less stable than coaches who believed their athlete was compliant.

Within the CA condition, Wilks' Lambda also revealed that coaches' belief about their recovery's outcome (as successful or a failure) did not have a significant covariate effect on coaches' causal ascriptions, $\Lambda = .85$, $F(1, 53) = 2.18$, $p = .09$, $\eta^2 = .15$. However, as hypothesized, coaches' beliefs regarding their recovery behavior had an overall effect on coaches' attributions for the cause of their failed recovery, $\Lambda = .28$, $F(1, 53) = 10.75$, $p < .001$, $\eta^2 = .47$. Test of between-subjects effects further revealed coaches' beliefs about their recovery behavior significantly differentiated their causal attributions for all scales of the CDSII (see Table 32 for statistics). Coaches within the CA condition who believed they did not comply with the rehabilitation protocol attributed the cause of their failed recovery to factors that were of greater internal locus of causality, stability, and personal control in comparison to coaches who reported that they were compliant (see Table 32 for descriptive statistics). However, coaches within the CA condition who reported they did not comply with the rehabilitation protocol also ascribed that the cause of their failed recovery was of less external control than coaches who believed they were compliant.

Table 32

*For the Recovery Failure Scenario – Within Perspective-taking Conditions between Recovery Behavior Belief (Compliant or Non-Compliant) Oneway MANCOVA† Between-Subjects Results Per CDSII Scale*

| | | Compliant | | | Non-compliant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Perspective-taking Condition* | *CDSII Scale* | *N* | *M* | *SD* | *N* | *M* | *SD* | *df* | *F* | *p* | $\eta^2$ |
| Coach-as-Coach | | | | | | | | | | | |
| | Locus of Cause | 34 | 10.41 | 5.24 | 19 | 10.47 | 5.12 | 1 | 4.67* | .01 | .16 |
| | Stability | 34 | 10.24 | 4.61 | 19 | 8.95 | 3.49 | 1 | 6.14** | .00 | .20 |
| | Personal Control | 34 | 13.29 | 5.88 | 19 | 14.21 | 6.43 | 1 | 5.84* | .01 | .19 |
| | External Control | 34 | 15.50 | 6.03 | 19 | 18.63 | 5.28 | 1 | 6.32** | .00 | .20 |
| Coach-as-Athlete | | | | | | | | | | | |
| | Locus of Cause | 41 | 16.61 | 5.95 | 14 | 23.57 | 3.61 | 1 | 31.59** | .00 | .55 |
| | Stability | 41 | 11.07 | 3.48 | 14 | 11.71 | 4.97 | 1 | 21.03** | .00 | .45 |
| | Personal Control | 41 | 17.66 | 6.47 | 14 | 23.93 | 2.97 | 1 | 22.05** | .00 | .46 |
| | External Control | 41 | 9.85 | 5.22 | 14 | 8.93 | 5.09 | 1 | 3.63* | .03 | .12 |

† **Coaches' recovery outcome belief (success or failure) was the covariate variable in these analyses**

**p* < .05; ***p* < .01

*Hypothesis 10.* The interaction of the coaches' belief about the athlete's rehabilitation behavior (compliant or non-compliant) with their belief about the recovery's outcome (success or failure) was expected to affect coaches' causal ascriptions. For the successful recovery scenario, all participants (N = 114) agreed with the principal investigator that the recovery outcome described in the scenario was indeed a "success". Also, while 108 participants reported that the athlete complied with the rehabilitation protocol, only three coaches believed the athlete was non-compliant.

Because there was no comparison group (those believing the recovery to be a "failure" or enough in the non-compliant group), an analysis of the interaction of rehabilitation behavior by recovery outcome on CDSII scale means was not conducted for the successful recovery scenario.

For the failed recovery scenario, as reported previously, 75 coaches believed the athlete was compliant and 33 coaches stated the athlete did not comply with the rehabilitation protocol. Also, while 74 participants agreed with the principal investigator that the recovery outcome of the scenario was indeed a failure, 34 participants contended that the failed recovery was actually a "success". However, for conducting a 2 x 2 MANCOVA to test the interaction, two comparison recovery outcome groups (success <u>and</u> failure) within the non-compliant rehabilitation behavior condition did not exist for this sample. That is, all of the coaches who stated the athlete was non-compliant also believed the recovery was a failure (with none believing it to be a "success"). Thus, analysis of the interaction of rehabilitation behavior by recovery outcome on CDSII scale means was not conducted for the failed recovery scenario.

*Research Question.* Weiner (1986, 1992) stated that the stability dimension of causality is primarily associated with expectancy beliefs. However, additional empirical research regarding this correlate has not been found. In the absence of additional empirical information to substantiate or debate Weiner's assertion and Leith's (1989) findings regarding the effect of outcome on expectancy beliefs, only a research question as to which dimension of causality would be primarily associated with expectancy was proposed for this study.

For each of the recovery scenarios, a series of separate partial correlations were conducted. The partial correlation was preferred for these analyses because it controls for the effect of the covariate variables identified earlier in this chapter for each recovery scenario. Safrit and Wood's (1995) guidelines for interpreting the size of the correlation coefficient was used for reporting results (see Table 33).

Table 33

*Safrit and Wood's (1995) Guidelines for Interpreting the Size of the Correlation Coefficient*

| Strength of the Relationship | Correlation Coefficient Range |
|---|---|
| High | ± .80 - 1.00 |
| Moderately high | ± .60 - .79 |
| Moderate | ± .40 - .59 |
| Low | ± .20 - .39 |
| No relationship | ± .00 - .19 |

Three separate partial correlations were performed for the successful recovery scenario: a) including all participants, b) coaches within the CC perspective-taking condition, and c) coaches within the CA perspective-taking condition. The covariate variable was the order in which coaches were exposed to the descriptive recovery scenarios. (See Table 34 for complete partial correlation analyses results.) The analyses containing all participants (N = 111) revealed that personal control had a low, positive relationship with participant's expectations for a similar successful recovery in the future, $r = .23, p = .02$. That is, as coaches attributed greater personal control to the cause of the successful recovery, the more coaches expected the athlete to have a successful recovery from the sport injury. For the CC perspective-taking condition, no dimension of causality significantly correlated with coaches' expectancy for a similar successful recovery for their athlete in the future. However, within the CA perspective-taking condition, three dimensions of causality significantly correlated with coaches' expectancy for a similar successful recovery for themselves. For coaches in the CA condition, as greater internal locus of causality was given to the cause of their successful recovery, the more they expected to have a similar recovery outcome in the future, $r = .39$, $p = .003$. As coaches in the CA condition attributed greater personal control to the cause of their successful recovery, the more they expected to have a similar recovery outcome in the future, $r = .55$, $p = .000$. Lastly, within the CA condition, external control maintained a low, negative correlation with future expectancy. That is, the more coaches attributed external control to the cause of their successful recovery, the less they expected to have a similar recovery outcome in the future, $r = -.32$, $p = .02$.

Three separate partial correlations were also performed for the recovery failure scenario: a) including all participants, b) coaches within the CC perspective-taking condition, and c) coaches within the CA perspective-taking condition. The covariate variable was coaches' beliefs about the recovery's outcome (as a success or a failure). (See Table 35 for complete partial correlation analyses results.) For each analysis, (all participants, coaches within the CC condition, and coaches within the CA condition), no dimension of causality significantly correlated with coaches' expectancy for a similar recovery failure for the athlete in the future.

Table 34

*For the Successful Recovery Scenario, Partial Correlation Results of the Association of Expectancy with Each CDSII Scale (Controlling for the Order of Exposure to the Recovery Scenarios)*

| | | Expectancy Partial Correlation Coefficient for Each CDSII Scale | | | |
|---|---|---|---|---|---|
| *Perspective-taking Condition* | | *Locus of Cause* | *Stability* | *Personal Control* | *External Control* |
| Combined PT-Conditions (*N* = 111) | | | | | |
| | *r* | .18 | -.03 | .23* | -.12 |
| | *p* | .07 | .73 | .02 | .20 |
| Coach-as-Coach (*N* = 54) | | | | | |
| | *r* | .04 | -.21 | .06 | .04 |
| | *p* | .76 | .14 | .65 | .79 |
| Coach-as-Athlete (*N* = 57) | | | | | |
| | *r* | .39** | .11 | .55*** | -.32* |
| | *p* | .00 | .42 | .00 | .02 |

$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 35

*For the Recovery Failure Scenario, Partial Correlation Results of the Association of Expectancy with Each CDSII Scale (Controlling for Coaches' Belief about the Recovery's Outcome)*

| | | Expectancy Partial Correlation Coefficient for Each CDSII Scale | | | |
|---|---|---|---|---|---|
| *Perspective-taking Condition* | | *Locus of Cause* | *Stability* | *Personal Control* | *External Control* |
| Combined PT-Conditions (*N* = 107) | | | | | |
| | *r* | .01 | -.04 | .00 | .16 |
| | *p* | .93 | .68 | 1.00 | .10 |
| Coach-as-Coach (*N* = 52) | | | | | |
| | *r* | .20 | .03 | .09 | .05 |
| | *p* | .15 | .85 | .55 | .71 |
| Coach-as-Athlete (*N* = 55) | | | | | |
| | *r* | .17 | -.05 | .14 | .01 |
| | *p* | .23 | .74 | .31 | .95 |

Given the discussion within the review of literature that suggested empathy, particularly personal distress, may be associated with helping behavior, evaluation of the relationship of expectancy to empathy was warranted. The same methods used to examine the association of expectancy to the causal dimensions were used to measure the relationship of expectancy to the IRI scales. For the successful recovery scenario, only the personal distress scale of the IRI was found to have a low, negative association to expectancy for the analysis of all participants, within the CC condition, and within the CA condition (see Table 36). That is, as coaches scored higher in personal distress the lower their expectations for the athlete to have a similar successful recovery outcome in the future. For each analysis for the recovery failure scenario (all participants, within the CC condition, and within the CA condition), no scale of the IRI significantly correlated with coaches' expectancy for a similar recovery failure for the athlete in the future (see Table 37).

Table 36

*For the Successful Recovery Scenario, Partial Correlation Results of the Association of Expectancy with Each IRI Scale (Controlling for the Order of Exposure to the Recovery Scenarios)*

| | | Expectancy Partial Correlation Coefficient for Each IRI Scale | | | |
|---|---|---|---|---|---|
| *Perspective-taking Condition* | | *Fantasy* | *Empathic Concern* | *Perspective-Taking* | *Personal Distress* |
| Combined PT-Conditions ($N$ = 109) | | | | | |
| | $r$ | .04 | .07 | .12 | -.32** |
| | $p$ | .67 | .47 | .24 | .00 |
| Coach-as-Coach ($N$ = 55) | | | | | |
| | $r$ | .15 | .08 | .15 | -.34* |
| | $p$ | .28 | .56 | .27 | .01 |
| Coach-as-Athlete ($N$ = 54) | | | | | |
| | $r$ | -.13 | .06 | .11 | -.28* |
| | $p$ | .34 | .68 | .44 | .04 |

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

Table 37

*For the Recovery Failure Scenario, Partial Correlation Results of the Association of Expectancy with Each IRI Scale (Controlling for Coaches' Belief about the Recovery's Outcome)*

| | | Expectancy Partial Correlation Coefficient for Each IRI Scale | | | |
|---|---|---|---|---|---|
| *Perspective-taking Condition* | | *Fantasy* | *Empathic Concern* | *Perspective-Taking* | *Personal Distress* |
| Combined PT-Conditions (*N* = 103) | | | | | |
| | *r* | .04 | -.07 | .15 | .15 |
| | *p* | .68 | .50 | .14 | .13 |
| Coach-as-Coach (*N* = 51) | | | | | |
| | *r* | .21 | -.08 | .06 | .23 |
| | *p* | .15 | .57 | .69 | .11 |
| Coach-as-Athlete (*N* = 52) | | | | | |
| | *r* | -.08 | -.04 | .23 | .05 |
| | *p* | .59 | .76 | .10 | .72 |

*Summary*

Preliminary analyses revealed that, for the successful recovery scenario, coaches' causal attributions were affected by the order in which they were exposed to the recovery scenarios. Furthermore, the order of exposure to the scenarios had a significant covariate effect on coaches' causal attributions for several hypothesis analyses for the successful scenario. For the failure scenario, all coaches did not believe the recovery outcome was a failure. However, when added as a covariate in all hypothesis analyses of the failure scenario, coaches' perception of the recovery outcome did not have a significant effect on their causal attributions. Hypotheses testing for the successful recovery scenario provided some support to Jones and Nisbett's (1972) actor-observer effect where, in this study, coaches in the Coach-as-Athlete (CA) condition attributed the cause of the recovery success to factors that were more internal and of greater personal control in comparison to the causal attributions of coaches in the Coach-as-Coach (CC) condition. However, the failure recovery scenario did not generate support for the actor-observer effect. Instead, coaches in the CA condition reported the failure's cause was more internal, stable, and controllable in comparison to the causal ascriptions of coaches in the CC condition.

Preliminary analysis of all coaches' empathy subscale scores showed that female coaches were higher in fantasy (FS) and empathic concern (EC) than male coaches. However, when added as a covariate in all analyses involving the FS and EC subscales of the IRI for each recovery scenario, participants' sex did not have a significant effect on coaches' causal attributions. Hypothesis testing further revealed that coaches' level of empathy did not differentiate coaches' CDSII scale scores for either recovery outcome scenario.

Recovery outcome (success vs. failure) had a significant effect on coaches' causal ascriptions of stability. For each coach group analyzed (all coaches, within the CC condition, and within the CA condition), coaches attributed greater stability to the cause of the successful recovery in comparison to the failed recovery.

Coaches' beliefs about the athlete's behavior in rehabilitation (compliant vs. non-compliant) had a significant effect on their causal attributions for the failed recovery scenario. Examination of all coaches showed that coaches who reported that the athlete complied with the rehabilitation attributed the cause of recovery failure to factors that were less internal, more stable, and less controllable in comparison to coaches who believed the athlete did not comply with the rehabilitation. Within perspective-taking condition comparisons further revealed that coaches in the CC condition who believed their athlete did not comply with the rehabilitation attributed the recovery failure to factors that were more internal, less stable, and of greater personal and external control in comparison to the casual ascriptions of their cohorts who believed their athlete complied with the rehabilitation. In contrast, coaches in the CA condition who reported they did not comply with the rehabilitation attributed their recovery failure to factors that were more internal, more stable, and of greater personal control in comparison to the casual ascriptions of their cohorts who believed they complied with the rehabilitation.

Lastly, for the successful recovery outcome, coaches' expectancy beliefs were associated with their causal ascriptions. More specifically, examination of all coaches revealed a low, positive correlation of expectancy and personal control. Within perspective-taking condition analyses showed that, within the CA condition, coaches' expectancy beliefs was correlated with locus of causality, personal control, and external control. Within the CC condition, expectancy beliefs did not correlate with any CDSII scale for the successful recovery outcome. Also for the successful recovery scenario, the personal distress subscale of the IRI was negatively correlated with coaches' expectancy belief for each coach group analyzed (all coaches, within the CA condition, within the CC condition). For the failure recovery scenario, coaches' expectancy belief did not correlate with any scale of the CDSII or subscale of the IRI.

# CHAPTER 5

# DISCUSSION AND FUTURE DIRECTIONS

## *Differences in Observers' and Perspective-takers' Causal Attributions*

According to attribution theory (Weiner, 1972), individuals use four major causal attributions to explain success or failure in achievement settings – ability, effort, luck, and task difficulty. These attributions can be placed along three dimensions – locus of causality, stability, and controllability. In addition, Jones and Nisbett (1972) assert that actors tend to attribute the cause of their actions to external/situational factors while observers attribute the same actions to stable, personal factors of the actor. Although this classic actor-observer effect has been found in sport research (e.g., Van Raalte, Brewer, & Petitpas, 1995), it is more often unsupported in the sport-achievement setting (e.g., Grove et al., 1990; Lefebvre, 1978; Wolfson, 1997). Instead, in the sport-achievement setting, actors tend to ascribe internal/personal attributions for their successes and external/situational attributions for their performance failures (Mullen & Riordan, 1988; Wolfson, 1997). Thus, in the sport domain, occurrence of the classic actor-observer effect seems to be contingent on the performance outcome (win/loss, success/failure).

In addition to its being affected by the outcome of the event (success or failure), the classic actor-observer effect has also been altered by perspective-taking (e.g., Funder, 1980; Funder & Colvin, 1997; Galper, 1976; Gould & Sigall, 1977; Regan & Totten, 1975). That is, observers who are prompted to imagine themselves as the other person have inspired observers in the perspective-taking condition to make causal ascriptions similar to those typically made by the actor (situational/external). For this study, two research hypotheses addressed these tenets in hopes of expanding our understanding of coaches' application of causal attributions for athletes' successful and unsuccessful sport injury recoveries.

Given the research findings regarding the classic actor-observer effect in sport research, it was hypothesized that the coaches' causal ascriptions for the recovery outcomes would not differ between the two perspective-taking conditions [Coach-as-Coach (CC) vs. Coach-as-Athlete (CA)]. Contrary to the research hypothesis, differences in causal attributions between perspective-taking conditions were found for both the successful and failed recovery scenarios. For the successful recovery scenario, coaches in the CA condition responded that the cause of their recovery's success was more internal and of their personal control compared to coaches who maintained their perspective as the coach. For the recovery failure scenario, coaches in the CA condition responded that the cause of their failed recovery was of greater internal locus of causality, more stable, and of greater personal control in comparison to coaches in the CC condition. Also, for the failed recovery scenario, coaches in the CA condition reported that the cause of their failed recovery was of less external control in comparison to coaches in the CC condition.

While it is encouraging to find that coaches in the CA condition attributed their recovery success to internal factors that were of their personal control, their causal ascriptions for their recovery failure are worrisome. Intuitively, it is understandable that coaches in the CC condition would not overwhelmingly attribute the cause of their athlete's failed recovery to internal and controllable factors of themselves - the coach. It is also understandable that in achievement settings such as sport, coaches taking the perspective of the athlete would attribute the cause of their failed recovery to internal and controllable factors of themselves as the athlete. In fact, Mullen and Riordan (1988) assert that while internal attributions (i.e., higher locus of causality and personal control scores) generally occur for successful outcomes, external explanations are not consistently given for failure situations. However, differences between the coaches in the CA and CC conditions' causal attributions for the failed recovery may reveal a potent reason why athletes who lack recovery progress may not comply with the rehabilitation protocol and the resulting negative relationship they share with their coaches.

The locus of causality dimension differentiates between causes that are within the person (i.e., ability, aptitude, effort, strength) and causes that are outside the person, (i.e., luck, task difficulty). The stability dimension differentiates between causes that are temporary (i.e., luck, short-term effort), and causes that are stable (i.e., ability, task difficulty, long-term effort). Weiner (1992) asserts that perceived causal stability is the essential attributional determinant of task expectancies (future success or failure) while perceived locus of causality determines affective consequences (pride/satisfaction, shame/dissatisfaction). Citing the earlier work of Atkinson, Weiner continues to remind us that motivation is partly determined by expectancy of success *and* affective anticipation (pride and satisfaction). Consequently, injured athletes (or coaches taking the perspective of the injured athlete) who perceive the cause of the failed recovery to be both stable and internal are, according to attribution theory, more likely to expect similar or continued recovery failure, experience greater negative affect, and lack motivation to continue the rehabilitation protocol, thus making recovery and a healthy return to sport difficult, if not impossible. On the other hand, coaches observing the event of injury rehabilitation, such as the coaches in the CC condition of this study, are also subject to the influence of causal attributions on their expectancy beliefs and affective anticipation. Therefore, when coaches attribute the cause of the failed recovery similarly or as more stable than the athlete ascribes, the coach may take the position that their efforts to help their athlete will not change subsequent recovery outcomes. Thus, the expectation of similar recovery failures in the future may serve to inhibit a pro-social, proactive relationship between the coach and the injured athlete.

Coaches' in the CA condition ascription that the cause of the recovery failure is more internal and stable than coaches in the CC condition may have occurred because the Coach-as-Athletes may not be able to divorce themselves from the injury and they lack an identifiable external source of blame. The coaches in the CA condition may, like athletes themselves, view the situation of injury as a personal, internal condition that cannot be divorced from the self. The discussion in the psychology of sport injury literature of the role of physical self-efficacy and athletic identity in athletes' cognitive appraisal and psychological response to injury draws close to explaining this idea; however the issue of *injury-as-self* has not been clearly established. Ray and Wiese-Bjornstal (1999) reported that sport injury may have a significant influence on athletes' perceptions of physical self-efficacy (athlete's situation-specific confidence for a particular physical task). Because specific physical skills are hampered by a sport injury, it is logical that athletes' perceptions of their specific physical abilities suffer during the recovery period.

While injury may threaten a specific portion of athletes' self-concept (physical self-efficacy), Brewer (1993) suggests that the individuals' athletic identity (and perhaps global self-identity) may be severely quaked by a sport injury. Brewer contends that when a substantial part of an athlete's identity is removed because of injury, the remaining part may not be able to obtain sufficient validation and meaning from other aspects of life to maintain some sense of personal equilibrium. Hence, "the loss of an anchor in athletic participation can result in a sense of inadequacy and worthlessness, feelings of depression and helplessness, and a general inability to gain fulfillment and validation from life" (Taylor & Taylor, 1997, p. 37).

However, while athletes with an injury may mourn the loss of their athletic identity, they may also adopt a new identity that reflects their current situation. That is, an athlete who sustains a severe injury or one who requires a lengthy recovery period may shift his/her self-perceptions from "sport-able" to that of "injured athlete" and adopt an identity of *injury-as-self* where the injury, including its cause and recovery outcome, is viewed as a comprehensive characteristic or integral part of the individual. Therefore, maintaining a holistic view of the *injury-as-self* may diminish athletes' (and perspective-taking coaches') ability to view the cause of the failed recovery as anything but an internal part of the individual. However, while consequential shifts in self-concept (physical self-efficacy and self-identity) may occur with the onset of sport injury and throughout the recovery process, Pargman (1999) optimistically states "self-concept is a psychological variable that may fluctuate within short time frames and is, therefore, amenable to strategic manipulation" (p. 8).

From a cognitive appraisal standpoint, differences between coaches in the Coach-as-Athlete (CA) perspective-taking condition and the Coach-as-Coach (CC) condition causal attributions for the failed recovery scenario provides hope that coaches can empathize with and understand the challenges athletes face while recovering from an injury. The loss of an athletic identity and adoption of an injury-identity are data about the athlete's affective experiences that a coach can have no direct knowledge. However, coaches can draw on their personal sport injuries to help take the perspective of the athlete. Coaches who have not experienced a severe or menacing sport injury but are high in dispositional empathy may also be amenable to such introspection.

A second reason coaches in the CA perspective-taking condition may have attributed the recovery failure to more internal and stable causes than coaches in the CC condition is that the participants in this study retain a sufficient amount of confidence in the sportsmedicine personnel. An earlier study of injured athletes (Lewis, 1999) revealed that injured athletes are confident in their athletic trainers and sportsmedicine physicians and their ability to properly diagnose and treat the injury. Such confidence in the athletic trainers and sportsmedicine physicians may further serve to reduce injured athletes', or in this study coaches in the CA condition's, options for external causes of the failed recovery. Thus, internal attributions are encouraged. Similarly, if coaches in the CC condition hold strong efficacy beliefs about the sportsmedicine personnel, they too may exclude this external factor as a possible cause for the failed recovery and rely on causal factors related to the athlete. However, at this time, no study of coaches' efficacy beliefs about the sportsmedicine personnel has been found to support this line of thinking.

*Dispositional (Trait) Empathy and Causal Attributions*

Davis (1996) maintains that persons who are more empathic by trait may react with greater affect to the observed experiences of others in comparison to persons low in dispositional empathy. Three research hypotheses involving the effect of coaches' dispositional empathy on their causal attributions were stated for this study. First, coaches with high empathy subscale scores were expected to attribute recovery outcomes to external/situational factors more so than coaches with low empathy subscale scores. However, support for this hypothesis was not found for either the successful or failed recovery outcome for any subscale of the IRI [perspective-taking (PT), fantasy (FS), empathic concern (EC), personal distress (PD)]. Lack of sufficient sample size for the dichotomous levels (low vs. high) of empathy subscales may have hampered efforts to test this hypothesis sufficiently (see Tables 8, 10, and 13). In fact, because the EC and PT subscales severely lacked sufficient sample for the low group ($N = 2$ and 5 respectively), the participants in the neutral category were combined to create a comparison of low-neutral to high EC and PT scores. Also, none of the coaches in the study had a high personal distress subscale score, thus forcing a dichotomous comparison of low PD to neutral PD, rather than low to high. From an educational sport psychologist's point of view, finding that the coaches in this study had dispositional empathy scores that are positively associated with pro-social and helping behaviors provides evidence that these coaches may interact positively with their injured athletes. However, future investigations of the effect of trait empathy on coaches' causal attributions for recovery outcomes must first establish distinct low and high empathy subscale groups that contain sufficient sample size for statistical comparisons. Further confounding the results of the first hypothesis regarding the effect of empathy on coaches' causal attributions was the significant covariate effect of the order of the recovery scenarios on attributions for the successful recovery scenario. This covariate effect will be discussed more in the following paragraphs.

The second hypothesis regarding dispositional empathy and coaches' causal attributions examined differences within the perspective-taking conditions [Coach-as-Coach (CC) and Coach-as-Athlete (CA)]. It was expected that within the CA and CC perspective-taking conditions, coaches with high empathy subscale scores would attribute recovery outcomes to external/situational factors more so than coaches with low empathy subscale scores. This hypothesis also was not supported by the statistical analyses for either the successful or failed recovery scenario because of lack of sample size per level of empathy for sufficient comparisons (see Tables 15, 17, 19, and 21). However, in this analysis, the covariate effect of the order of the recovery scenarios on causal attributions for the successful recovery outcome was further clarified and provided additional considerations for research methods. The order in which coaches in the CC condition were exposed to the descriptive recovery scenarios had a significant covariate effect on their causal ascriptions for the EC, PT, and PD subscales of the IRI (see Table 9). A similar covariate effect was not found within the CA condition. This suggests that future examination of empathy and causal attributions, like this study, must hold the order of exposure to the recovery scenarios constant. Because the recovery failure scenario did not exhibit a covariate effect of the scenario order (see Table 4), preferably, the successful recovery scenario should be read and responded to before the recovery failure scenario.

Finding an order effect on coaches' causal attributions for the successful recovery outcome within the CC condition but not within the CA condition makes for an interesting discussion point. Earlier in this dissertation (see Chapter 1), several sources of information for causal attributions were identified and discussed. While effect, cause, and historical data about an observed event are available to both the coach (the observer) and the athlete (the actor), not only may these two individuals be privy to differing specific types of data, they may also focus on particular data and disregard other information when forming causal attributions. These dynamic interactions for information processing are what make the application of attribution theory to the study of coach-athlete relationships during sport injury recovery so interesting. Through this study, it becomes evident that coaches use the historical information of athletes' previous injury recovery outcomes to explain subsequent recovery outcomes.

The final hypothesis involving trait empathy and causal attributions examined the interaction of empathy with coaches' injury severity on coaches' causal attributions. It was hypothesized that coaches within the perspective-taking conditions (CA or CC) having high IRI subscale scores and having experienced a moderate or a major sport injury would attribute the cause of athletes' recovery outcomes to external factors more so than coaches with low IRI scale scores and having experienced none or a minor sport injury. Once again, because of lack of sample size to satisfy the two levels of empathy and injury severity groups under inspection, significant findings were not found. Here, the issue of response bias becomes critical to the conduct of sport injury research. Eighty-seven participants (76.3%) self-identified their sport injury as moderate ($N = 53$) or major ($N = 34$) while the remaining 27 participants (23.7%) reported having either none ($N = 10$) or a minor ($N = 17$) injury during their athletic playing years. Similarly, assessment of the hypothesis examining the main effect of injury type (career-ending or not career-ending) on causal ascriptions was derailed by lack of sufficient sample size. Here, only seven participants reported having a career-ending sport injury in comparison to the 94 coaches whose injury was not career-ending. Because the topic of a study may be of more personal interest to some potential participants than others, the response rate to form dichotomous groups under investigation may not be achieved, thus reducing the investigators' ability to conduct specific analyses and to generalize results (Alreck & Settle, 1995). Therefore, when conducting injury research, it becomes very important to employ data collection methods that will encourage achieving a sample that is representative of the larger population. However, even the best efforts to secure a dichotomous sample may still result in response bias as a limitation of the study.

*Effect of Recovery Success and Failure on Causal Attributions*

Hypotheses that reflect the expectations of the working model for this study (see Figure 1) and designed to provide additional understanding of coaches causal attributions were made. One such hypothesis was that recovery outcome would have a main effect on coaches' causal ascriptions where the successful recovery outcome would elicit different causal explanations in comparison to when the recovery was a failure. An initial analysis of all participants' responses revealed that coaches ascribed greater internal locus of causality, stability, and external control to the cause of the athlete's successful recovery compared to the failed recovery scenario (see Table 28). However, differences in coaches' perception of the recovery's outcome influenced their causal ascriptions of stability. All of the coaches in this study agreed with the principal investigator that the successful recovery scenario was a success. On the other hand, for the recovery failure scenario, 66.7% of the participants ($N = 76$) agreed with the principal researcher that the recovery described in the scenario was a failure. Thirty-four coaches (29.8%) perceived the failure scenario to be a success and four participants (3.5%) did not respond to this item on the questionnaire. When the participants who perceived the failed recovery was a success were excluded from the analysis, differences in ascriptions of stability were found. That is, the cause of the successful recovery was more stable than the recovery failure scenario (see Table 29).

Differences in coaches' perceptions of the stability of the recovery outcome's cause may be explained by how coaches utilize different information (data) when forming judgments about the outcome of an event. For example, a team may win a competition but the coach may not view the win as a success because the players did not execute sport skills proficiently or communicate well with teammates when on the field. In this study, 26 coaches who believed the failure recovery scenario was a failure attributed the outcome to the athlete's lack of compliance in rehabilitation (see Appendix I). Another two coaches attributed the recovery's failure to improper diagnosis or treatment protocol for the injury. These two *most likely causes* were expressed by coaches who believed the recovery was a failure, but were not given by coaches who perceived the recovery as a success. However, other causal explanations were shared by both coaches who perceived the recovery to be a failure and those who thought it was a success. Thus, disparity in data appraisal and processing does not seem to be the only explanation for perceptual differences.

While the processing of different types of information may differentiate coaches' perceptions of a recovery's outcome, coaches may also process identical information but arrive at different conclusions about the outcome of an event thus influencing differences in their causal attributions. For the recovery failure scenario, coaches who judged the outcome to be a failure and who perceived it to be a success often attributed the athlete's experience of continued discomfort and pain to fear of re-injury, returning to sport too early before the injury was properly healed (see Appendix I). Similarity in coaches' causal explanations that yield different perceptions of the recovery's outcome suggests that a mediator (e.g., trait empathy, coaches' injury history, coaches' experience with injured athletes) may buffer their judgment about the outcome.

Differences in coaches' causal ascriptions between the two recovery scenarios were also found within the perspective-taking conditions. Again, the participants who believed the recovery failure scenario was a success were excluded from these analyses. Within the CC condition, coaches reported the cause of the successful recovery was more stable and of greater personal and external control than for the recovery failure scenario (see Table 30). Within the CA condition, coaches reported the cause of the successful recovery was of greater internal locus of causality, more stable, and of greater personal and external control than for the recovery failure scenario (see Table 30). However, causal ascriptions are dependent on the outcome of the recovery. The literature proposes that internal, stable, and controllable ascriptions for recovery success encourage expectancy for similar success in the future. However, the effect of causal ascriptions for the failure situation has not been sufficiently discussed in the attribution, classroom achievement or sport achievement literature. Therefore, research that specifically focuses on causal attributions for failure in sport, specifically injury recovery failure, and their subsequent effect on expectancy, affect, and motivation is necessary.

*Effect of Perceptions of Rehabilitation Behavior on Causal Attributions*

After reading each descriptive scenario, participants were asked if they believed the athlete complied with the rehabilitation protocol. It was expected that coaches who believed the athlete complied with the rehabilitation protocol would attribute the cause of the recovery outcomes to external, situational factors more so than coaches who believed the athlete did not comply with the rehabilitation. For the successful recovery scenario, statistical analysis of between recovery behavior beliefs (compliant vs. non-compliant) was not conducted because only three coaches reported that the athlete did not comply with the rehabilitation protocol while the remaining 108 participants believed the athlete was compliant. It should be noted that all of this study's participants, including the three who perceived non-compliant behavior, reported that the successful recovery scenario's outcome was indeed a success. However, these three coaches provided dissimilar causes for the athlete's recovery success. A coach in the CA condition reported that "rehab at the therapist office," an external attribute, was the most likely cause of her recovery success. A second coach in the CA condition stated that her recovery success was most likely caused by "[her] body's natural ability to bounce back," an internal, stable cause. The third coach, who was in the CC condition, attributed the cause of his athlete's successful recovery to the extensive recovery time (3 months) associated with ACL surgery rehabilitation, an external, unstable attribute. Interestingly, the only attributional dimension these three differing causal explanations have in common is controllability. That is, each of these causal explanations is not within the personal control of the athlete, or of the coach for that matter.

Within perspective-taking condition, analyses regarding differences in coaches' causal attributions between those who complied and did not comply with the rehabilitation protocol were also conducted. Again, because all of the coaches reported that the athlete complied with the rehabilitation protocol for the successful recovery scenario, only statistical analyses for the failed recovery outcome were conducted. Similar to the analysis of differences between all coaches, it was expected that, within the perspective-taking conditions, coaches who believed the athlete complied with the rehabilitation protocol would attribute the cause of the recovery outcomes to external, situational factors more so than coaches who believed the athlete did not comply with the rehabilitation.

For the failed recovery outcome, coaches' beliefs about the athlete's recovery behavior influenced their casual ascriptions. Forty-one participants in the Coach-as-Athlete (CA) condition reported that they complied with the rehabilitation protocol for the failed recovery scenario, while the remaining 14 coaches reported they were non-compliant. In fact, oneway MANCOVA analysis of recovery behavior (compliant or non-compliant) within the perspective-taking conditions revealed that coaches in the CA condition who stated they did not comply with the rehabilitation protocol reported the cause of their recovery's failure was more internal, more stable, and of greater personal control than coaches who complied with the rehabilitation (see Table 32). Finding differences in coaches in the CA condition ascriptions of locus of causality, stability, and personal control offers additional support for Atkinson's and Weiner's position regarding the dynamic interaction of the dimensions of causal attributions and provides additional understanding of attributional factors that may affect motivation in rehabilitation settings.

In addition, for the failed recovery scenario, 34 coaches within the Coach-as-Coach (CC) condition reported that the athlete complied with the rehabilitation protocol while 19 coaches stated that their athlete did not comply with the rehabilitation. MANCOVA analyses (see Table 32) revealed that coaches who perceived non-compliant behavior by their athlete attributed the cause of recovery failure to factors that were more internal, less stable, of greater personal control, and of greater external control than coaches who perceived compliant behavior. These findings may indicate that when a coach believes his/her athlete's recovery is not successful, more can be done to improve the recovery's outcome. Recall that the stability dimension, according to Weiner (1992), determines future expectancy. While individuals may have a general pattern for giving effort toward tasks that can be considered to be a stable trait of the persons, they can also apply different amounts of effort at various points in time and toward a specific task (unstable effort). The attribution of less stability when the athlete is non-compliant than when compliant may indicate that coaches are capable of recognizing that effort toward recovery is not static, but changeable. In fact, Graham (1990) asserts that "attributing failure to lack of effort [or compliance] is more adaptive because effort is perceived as both changeable and under one's volitional control" (p. 17). Higher personal control scores attributed to the cause of the failure for non-compliant behavior than for compliant behavior may also indicate that coaches are aware of the influential role they play in helping their athletes to comply with the rehabilitation protocol. Thus, when faced with their athlete's unsuccessful recovery, coaches who believe that they did not try hard enough to help their athlete comply with the rehabilitation protocol can be encouraged by the expectation that failure need not occur again and by the belief that there is a relationship between their efforts and subsequent recovery outcomes. On the other hand, coaches' attribution of greater stability to the cause of recovery failure when the athlete was believed to be non-compliant may lead to pessimistic recovery expectancy beliefs, thus leading the coach to anti-social interactions with the athlete.

Coaches' perception of an athlete's compliance behavior can have a significant effect on their willingness to help the injured athlete. Interpreting Schmidt and Weiner (1988), coaches are more likely to help (or maintain a pro-social relationship with) an injured athlete when the cause of the recovery failure is due to uncontrollable factors (such as when the athlete complies with the rehabilitation) than when the athlete's behavior is perceived to be controllable (non-compliant, lack of effort in rehabilitation).

As for the personal attributes of the coach in regards to helping behavior, coaches who perceive themselves as lacking personal control over the recovery situation or outcome are more likely to become passive and provide little social support to the injured athlete. Also, interpreting the work of Reeve (1996), coaches' helping behavior may also decrease or cease to exist when the coaches believe themselves to be incapable of executing the helping behaviors that are required to control the recovery outcome they and their athlete desires. This second point may be a critical explanation as to why coaches seem absent in the athletes' recovery process, a point generated in an earlier study of athletes' perception of social support during injury recovery (Lewis, 1999). However, if this is indeed a significant factor, it remains unknown if the coach is incapable of helping the injured athlete because he/she sincerely lacks the inherent abilities (or qualities) associated with helping behavior or are overwhelmed with the responsibilities of coaching and therefore unable to devote attention to helping. So in addition to empathic ability, assessment of personal and situational factors that allow coaches to provide social support may be warranted.

*Causal Attribution's Association with Coaches' Expectancy Beliefs*

Weiner (1986, 1992) states that stability is primarily associated with expectancy beliefs, however the findings of this study do not support his assertion. For the successful recovery scenario, partial correlation analyses did not reveal a significant relationship between stability and coaches' expectancy beliefs for any of the groups under analysis (all coaches, coaches within the CC condition, coaches within the CA condition; see Table 34). However, partial correlation analyses revealed that personal control positively correlated with coaches' expectancy beliefs for the analysis of all coaches and within the CA condition. Also within the CA condition, coaches' expectancy beliefs for the outcome of their future injury recovery were positively correlated with locus of causality and negatively correlated with external control. However, for the within Coach-as-Coach condition, no causal dimension significantly correlated with coaches' expectancy beliefs for the outcome of their athlete's future injury recovery. For the recovery failure scenario, partial correlation analyses revealed no significant relationship between stability, or any other causal dimension for that matter, and coaches' expectancy beliefs for any of the coach groups under analysis (see Table 35).

Given the discussion within the review of literature that suggested empathy, particularly personal distress, may be associated with helping behavior, evaluation of the relationship of expectancy to empathy was conducted. Exploratory analysis of partial correlations revealed that for the successful recovery scenario, personal distress was negatively correlated with coaches' expectancy beliefs for each coach group (all coaches, within the CC condition, within the CA condition, see Table 36). However, no empathy subscale significantly correlated with coaches' expectancy beliefs for the recovery failure scenario. These findings provide limited support for the idea that dispositional empathy, especially coaches' disposition for experiencing personal distress in crisis situations, may mediate causal attributions and their effect on coaches' interactions with their injured athletes.

These findings regarding the relationship of causal attributions and empathy with expectancy beliefs are quite mind-boggling and difficult to interpret; however, the within CC condition findings are of the most personal interest. Finding a lack of association between coaches in the CC condition's causal attributions and future expectancy may be an indication of their perceived lack of contribution for future recovery outcomes. Perhaps they believe that their efforts for helping their athlete recover from injury will have little to no impact on the athlete's recovery outcome in the future. Instead, coaches may believe that it is largely the efforts of the athlete, not the coach, that make subsequent recovery outcomes. Another reason these findings may not support Weiner's (1986) position may be that research conducted to confirm stability is primarily associated with expectancy has been done from the actor's perspective (i.e., Duncan & McAuley, 1987; Leith, 1989; Nichols, 1976) rather than from that of the observer. The moderate correlation between expectancy and personal control within the Coach-as-Athlete condition provides some evidence that this may be the case. However, these conclusions are purely speculative and require additional study.

*Limitations of the Study*

Coaches' assignment of severity to the injuries in the descriptive scenarios and to their own sport injuries was not controlled in this study and may not have matched the severity categories defined in this study. Powell and Barber-Foss (1997) provide definitions for determining the severity of sport injuries that are widely accepted in the sport science literature (see Operational Definitions). When designing the descriptive recovery scenarios for this study, two NATA certified head athletic trainers (one of which was Powell himself) and two educational sport psychologists reviewed the injury descriptions to confirm they were realistic and classified as moderate to major in severity. However, the definitions of injury severity were not made available to the coaches in this study. Instead, participants were left to their own devices when they determined the severity of the injury described in the recovery scenarios. For the scenario that described an athlete's successful recovery from ACL surgery, frequency scores for coaches' categorization of the severity of the injury were as follows: major, $N = 70$; moderate, $N = 36$; minor, $N = 8$ (see Table 38). For the scenario that described an athlete's unsuccessful recovery from a "severe 3rd degree ankle sprain", frequency scores for coaches' categorization of the severity of the injury were as follows: major, $N = 39$; moderate, $N = 71$; minor, $N = 4$ (see Table 38). As for their own sport injuries, frequency scores for coaches' categorization of the severity of their injury were as follows: major, $N = 34$; moderate, $N = 53$; minor, $N = 17$; none, $N = 10$ (see Table 39).

Reviewing the self-described sport-related injuries coaches had when they were athletes seems to indicate that time spent away from sport, Powell and Barber-Foss' (1997) central delineation of severity, is not the only information coaches use to determine the severity of sport injury. At a glance, and without any further information than the coaches' description of their injury jotted down in the space provided on the demographic questionnaire, some of their injuries may have been, according to Powell and Barber-Foss, more or less severe. (See Appendix I for coaches' self-description of their sport injury.) For example, minor injuries listed by coaches included a broken wrist, knee hyperextension, a torn ligament in the hand, and rotator cuff tendonitis. While 104 participants reported having had a sport injury, 52 of these coaches stated that they continue to experience effects of their injury (see Table 40). Most interestingly, five of the eight coaches who reported their sport injury as being minor also continue to experience effects of their injury. Thus, additional factors such as the athlete's importance to the team, characteristics related to the injury (e.g., type and location of injury, relevance of injury to sport play, timing of injury, length of recovery time, amount of pain and its expression, quality of treatment), knowledge/experience gained since the injury (e.g., additional/reoccurring injuries, coaching experience with injured players), and desensitization to chronic, long-term pain may influence how coaches evaluate the severity of their own and their athletes' sport injuries. Future study of the social support available to injured athletes from their coaches should examine the process in which coaches come to judge the severity of sport injuries and how their judgments affect the coach-athlete relationship. In the meantime, for the practicing educational sport psychologist working with injured athletes, awareness of the inconsistencies in coaches' evaluation of the severity of sport injuries in comparison to Powell and Barber-Foss' definition may help in the counseling of injured athletes.

Table 38

*Crosstabulation Analysis of Coach's Perception of the Severity of Injury for Each Recovery Scenario*

| Recovery Scenario | Injury Severity | | Perspective-Taking (PT) Condition: CC Condition $N = 57$ | Perspective-Taking (PT) Condition: CA Condition $N = 57$ | Total $N = 114$ |
|---|---|---|---|---|---|
| Successful ACL Recovery | | | | | |
| | minor | | | | |
| | | Frequency | 3.00 | 5.00 | 8.00 |
| | | % Within PT Condition | 5.26 | 8.77 | |
| | | % of Total | 2.63 | 4.39 | 7.02 |
| | moderate | | | | |
| | | Frequency | 15.00 | 21.00 | 36.00 |
| | | % Within PT Condition | 26.32 | 36.84 | |
| | | % of Total | 13.16 | 18.42 | 31.58 |
| | major | | | | |
| | | Frequency | 39.00 | 31.00 | 70.00 |
| | | % Within PT Condition | 68.42 | 54.39 | |
| | | % of Total | 34.21 | 27.19 | 61.40 |
| Failed 3rd Degree Ankle Sprain Recovery | | | | | |
| | minor | | | | |
| | | Frequency | 2.00 | 2.00 | 4.00 |
| | | % Within PT Condition | 50.00 | 50.00 | |
| | | % of Total | 1.75 | 1.75 | 3.51 |
| | moderate | | | | |
| | | Frequency | 31.00 | 40.00 | 71.00 |
| | | % Within PT Condition | 43.66 | 56.34 | |
| | | % of Total | 27.19 | 35.09 | 62.28 |
| | major | | | | |
| | | Frequency | 24.00 | 15.00 | 39.00 |
| | | % Within PT Condition | 61.54 | 38.46 | |
| | | % of Total | 21.05 | 13.16 | 34.21 |

Table 39

*Crosstabulation Analysis of Coach's Perception of the Severity of Injury of Their Sport Injury*

| | | Coaches' Self-Description of the Severity of Their Sport Injury | | | | |
|---|---|---|---|---|---|---|
| | | None | Minor | Moderate | Major | Total |
| All Coaches | | | | | | |
| | Frequency | 10.00 | 17.00 | 53.00 | 34.00 | 114.00 |
| | % of Total | 8.77 | 14.91 | 46.49 | 29.82 | 100.00 |
| CC Condition | | | | | | |
| | Frequency | 5.00 | 8.00 | 25.00 | 19.00 | 57.00 |
| | % Within Severity Group | 50.00 | 47.06 | 47.17 | 55.88 | |
| | % of Total | 4.39 | 7.02 | 21.93 | 16.67 | 50.00 |
| CA Condition | | | | | | |
| | Frequency | 5.00 | 9.00 | 28.00 | 15.00 | 57.00 |
| | % Within Severity Group | 50.00 | 52.94 | 52.83 | 44.12 | |
| | % of Total | 4.39 | 7.89 | 24.56 | 13.16 | 50.00 |

Table 40

*Crosstabulation Analysis of Coach's Perception of the Severity of Injury of Their Sport Injury and If They Continue to Experience Any Effect of the Injury (Yes or No)*

| Continued Effect of Injury | | Coaches' Self-Description of the Severity of Their Sport Injury | | | |
|---|---|---|---|---|---|
| | | Minor | Moderate | Major | Total |
| Yes | | | | | |
| | Frequency | 5.00 | 25.00 | 22.00 | 52.00 |
| | % Within Continued Effect | 9.62 | 48.08 | 42.31 | |
| | % of Total | 4.81 | 24.04 | 21.15 | 50.00 |
| No | | | | | |
| | Frequency | 12.00 | 28.00 | 12.00 | 52.00 |
| | % Within Continued Effect | 23.08 | 53.85 | 23.08 | |
| | % of Total | 11.54 | 26.92 | 11.54 | 50.00 |
| Total | | | | | |
| | Frequency | 17.00 | 53.00 | 34.00 | 104.00 |
| | % of Total | 16.35 | 50.96 | 32.69 | 100.00 |

In addition to their perception of the injury's severity, demographic variables of the coaches may also vary their causal ascriptions. For example, head coaches and assistant coaches may interact with their athletes differently and may also differ in their perceptions of the injured athlete and his/her recovery outcome. Number of years coaching, sex of the athlete they coach, and level of coaching (youth vs. high school vs. college) are other variables that may significantly impact coaches causal attributions. Therefore, future studies similar to this should make efforts to control for such demographic variables of the coach that may interfere with obtaining robust findings and hamper the researcher's ability to generalize results across contexts.

A final limitation of this study was that the randomization of the order in which participants completed the survey instruments could not be controlled. It was assumed that coaches responded to the instruments in the order in which they were placed in the packet by the principal investigator. However, if coaches completed the surveys in another order and its resulting affect on their responses is unknown.

*Revised Working Model for Understanding Coaches' Causal Attributions for Recovery Outcomes and Their Relationship with Injured Athletes*

A working model for understanding coaches' causal attributions for injury recovery outcomes and coaches' behavior and interactions with their injured athletes was developed for this study (see Figure 1). However, after considering the data of this study, several changes have been made to suggest a more comprehensive approach for understanding coaches' causal attributions that lead to their relationship with their injured athletes (see Figure 2). In the event of a sport injury and a recovery outcome, coaches will use data about the athlete's recovery outcome, rehabilitation behavior, injury severity, the athlete's value to the team, and additional factors inherent to the sport injury setting (e.g., quality of sportsmedicine personnel and rehabilitation facility, length of recovery, timing of injury) to evaluate the recovery. (Note that the original model did not include the severity of injury and the athlete's value to the team as sources of information.) Coaches' evaluation of the information about the recovery will either directly affect their causal ascriptions or specific factors (or characteristics) of the coach will mediate (buffer) their effect. In this revised model, trait empathy (originally believed to have a direct effect) along with perspective-taking ability, coaches' sport injury history, and other demographic variables of the coach (e.g., number of years coaching, CPR/FA training, coaches' education training) are listed as possible mediators of the data used when forming causal attributions.

A substantial addition to the revised model is the resulting expectancy beliefs and affect of attributions and their effect on the coach-athlete relationship. Weiner (1986, 1992) posits that coaches' causal ascriptions a) directly determine coaches' expectancy beliefs, and b) determine specific emotions either directly or indirectly via expectancy beliefs. Therefore, it is the coaches' affective response, rather than causal ascriptions, that directly determines the social relationship between the coach and the injured athlete.

A final revision to the model was the addition of two separate paths for the coach-athlete relationship once an affective response has been formed by the coach. This differentiation is not meant to imply that the coach will respond differently (more or less pro-socially) to the athlete when the recovery is a failure in comparison to when it is a success. In fact, a coach can respond similarly to the athlete's recovery under either circumstance. However, when the athlete's recovery is unsuccessful, the athlete most often returns to rehabilitation where the coach will continue the cognitive evaluation process described by this model. In the event of a successful recovery, the athlete will return to sport practice and competition, thus sending the coach into an evaluation process that may be dissimilar (or contain different evaluative elements) than the one described by this model.

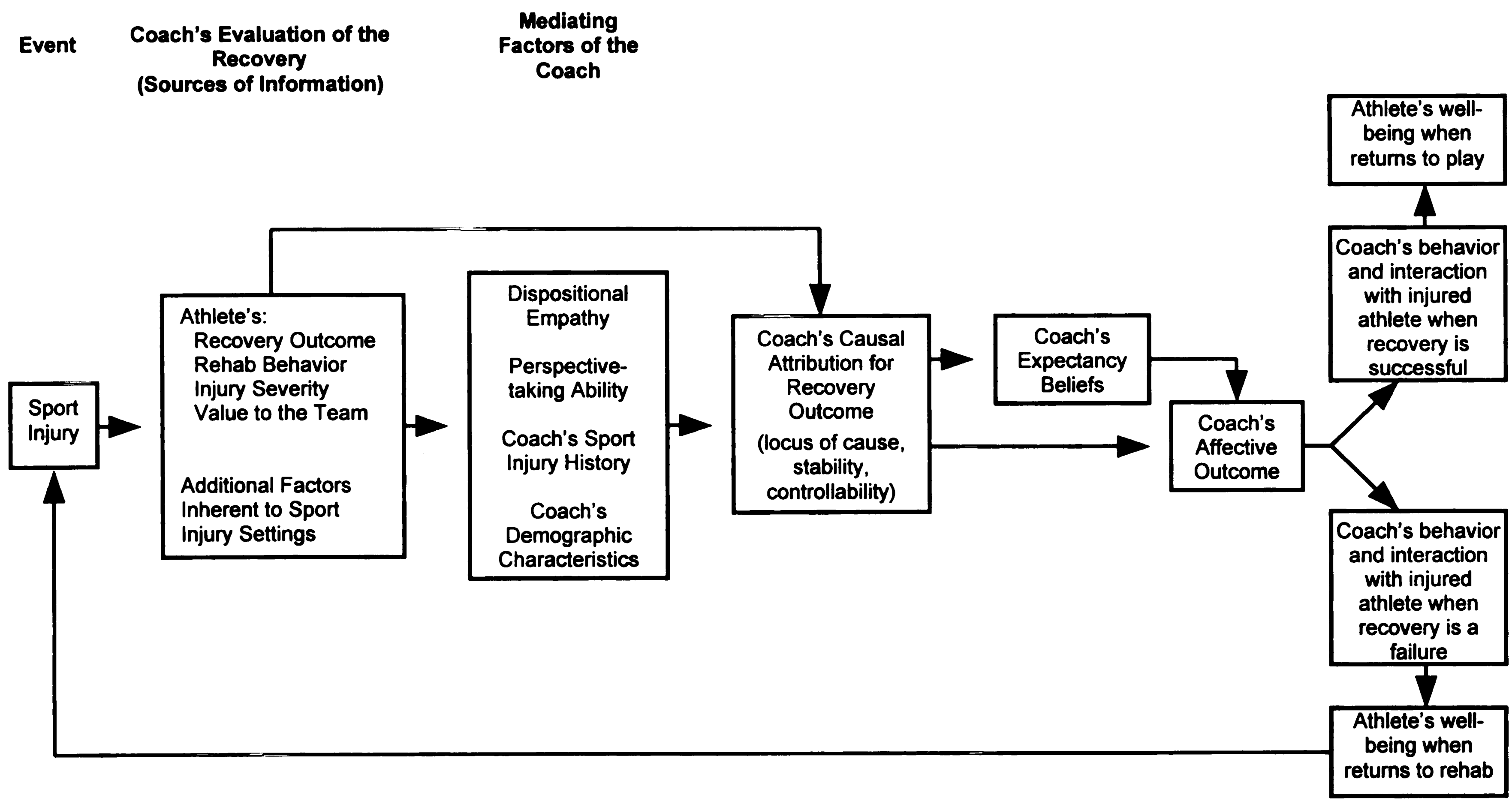



*Figure 2.* Revised working model for understanding coaches' causal attributions for injury recovery outcomes and their effect on the coach-athlete relationship.

*Implications and Future Directions*

The National Standards for Athletic Coaches (NASPE, 1995) provides descriptions of essential knowledge and experiences required of coaches at various levels of competition. These standards provide a framework for creating educational programs that meet the needs of prospective and current coaches. The standard aimed at the prevention, care, and management of injuries advises that coaches be able to identify and correct unsafe conditions, be prepared to stop or modify practices and play when unsafe conditions exist, and be able to select and maintain equipment that safeguards against injury. However, Clarke (2000) criticized NASPE's standards for their lack of influence on coaches to be more concerned with the well-being of the total athlete. The following are some practical ideas for educational sport psychologists, coaches, and possibly sportsmedicine professionals (i.e., athletic trainers, physicians) to consider when working with injured athletes. Future directions for research are also discussed.

The attribution literature suggests that helping behavior is encouraged by coaches' causal attributions and expectancy beliefs. More specifically, coaches are more likely to help their injured athletes when the cause of their assistance is due to uncontrollable factors such as low ability and trait-like effort than when assistance is perceived as due to controllable factors such as insufficient effort (e.g., non-compliant behavior) (Graham, 1990; Reeve, 1996; Schmidt & Weiner, 1988). Furthermore, as found in this and other studies (e.g., Leith, 1989, McAuley & Gross, 1983), the recovery outcome has a significant impact on coaches' causal attributions and expectancy beliefs. Therefore, rather than wait for a recovery outcome to occur and be used as information to form causal attributions and expectations, it is important to get the coaches involved in a supportive role early in their athlete's recovery. Coaches' early involvement in the recovery process may help minimize the effect of recovery setback and failure on their causal ascriptions by allowing the coaches to more realistically attend to all of the factors (personal and situational) that bear on the recovery outcome.

Therefore, coaches' education programs should include workshops that provide practical information and training dedicated to the coaches' role in the psychological development and welfare of athletes with injuries. Training should include discussion of how to help the athlete restore and maintain his/her athletic identity during the recovery process. This may include methods such as cognitively relating rehabilitation activities to sport conditioning activities and involving the athlete in as many practice and competition activities as possible (e.g., temporary assignment to managerial roles, inclusion in team meetings). Second, coaches should be trained to identify controllable factors that are specific to the coach (e.g., overseeing quality of medical care and compliance behavior) and the athlete (e.g., effort in rehabilitation, avoiding behaviors that compromise recovery) that can be enhanced to improve the outcome of the recovery. Coaches should also learn the importance of acknowledging and addressing external/situational factors outside of the athlete that may interfere with recovery. Lastly, in the absence of recovery progress, coaches should learn to acknowledge anything (effort in therapy, improved physiological state, a new hair cut) that will give the athlete some sense of pride, recognition, and value from their coach.

In addition to the recommendations for coaches' education programs, ideas for future research have also been generated by this study. First, the comparison of a true actor-observer condition involving coaches and their injured athlete that utilizes both quantitative and qualitative methods should be conducted. This study should include measurement of causal attributions, expectancy, affect, and the social interaction shared by the coach and athlete. Qualitative methods should include direct questions to the coaches and athletes that reveal specifically what the athlete and coach can do to help athletes recover successfully. Next, and not exclusive from the first point, future study of causal attributions in the sport injury sphere should more closely examine the recovery failure situation. Lack of finding a causal dimension associated with recovery failure and other findings between the recovery outcome scenarios indicates this is a rich area for studying the breakdown in the coach-athlete relationship during injury recovery.

A final point for future research is directed toward the measurement of causal attributions and empathy. While the CDSII is a valid measure of the dimensions of causal attributions, it has been criticized for its difficult semantic differential scale and ambiguous wording that may confuse participants who complete the survey (Biddle & Hanrahan, 1998). Also, the instrument should be tailored to measure the specific variables under investigation. Adjusting the CDSII to, perhaps, a likert-type scale with an item for each dichotomous pair of the present semantic differential where the items more closely reflect the variables under investigation may reduce error in measurement and strengthen the interpretive quality of the results. As for the measurement of empathy, the IRI is also a valid measure of dispositional (trait-like) empathy and continues to be a worthy investigative tool for a study such as this one. However, the addition of items to create subscales to measure situational empathy specific to sport injury may provide additional information to explain the cognitive process coaches undergo when forming causal attributions for recovery outcomes.

APPENDIX A

Consent Form

**Coaches' Perceptions of Sport Injuries Study**
**Explanation and Consent to Participate**

Coaches are always trying to avoid injuries to their athletes. Despite all efforts, injuries continue to occur. The purposes of this project are to explore the role of coaches in the recovery of injured athletes and to examine how coaches explain athletes' recovery success and failure.

It will take you approximately 20 to 30 minutes to complete the enclosed questionnaires. There is no compensation for participating in this study. Participation in this study is voluntary. You are under no obligation to be a participant and, if at any time, you do not feel comfortable with a question being asked, you may skip the item or withdraw from the study without any penalty.

All information given will be kept strictly confidential by the study's investigator. Your privacy will be protected to the maximum extent allowable by law. You will not be identifiable in any report of this research study. Only group data will be presented in write-ups and discussions of this study. However, to protect your identity and maintain confidentiality in your responses, do not write your name on the survey forms. Results of the study may be made available to you upon request and within the restrictions outlined on this form.

If you have any questions about this study, please contact Dr. Martha E. Ewing by phone, (517) 353-4652; or e-mail, mewing@msu.edu. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish - Ashir Kumar, M.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone, (517) 355-2180; fax, (517) 432-4503; e-mail, ucrihs@msu.edu; or regular mail, 202 Olds Hall, East Lansing, MI 48824.

**Your signature below indicates your voluntary agreement to participate in this study.**

______________________________
**Print Name**

______________________________
**Signature**

______________________________
**Date**

UCRIHS APPROVAL FOR
THIS project EXPIRES:

DEC 2 7 2003

SUBMIT RENEWAL APPLICATION
ONE MONTH PRIOR TO
ABOVE DATE TO CONTINUE

**Return this consent form and completed questionnaires to:**
Dawn Lewis, 39 IM Sports Circle, Michigan State University, East Lansing, MI 48824

# APPENDIX B

## Demographic Survey

## *Background Information*

**Age** _______

**Sex** ❑ Female ❑ Male

**Ethnicity**

❑ African American/Black
❑ Asian American
❑ European American/ Caucasian
❑ Hispanic American/ Latino
❑ Native American/Indian
❑ Pacific Islander
❑ Other ___________

Total Number of Years Coaching: ___________

Are you currently coaching? ❑ Yes ❑ No

If you are not currently coaching, how long has it been since you coached? _________

Sport Level Currently Coaching

❑ Intercollegiate
❑ Competitive Club Sport
❑ Interscholastic
❑ Select Travel Teams (e.g., AAU, soccer, hockey)
❑ Other _______________

Check all sports you are coaching during the 2002-2003 academic year <u>**and**</u> circle the sex (male, female, or both) of the athletes you coach in the sport.

❑ Baseball
❑ Basketball M / F
❑ Competitive Cheer M / F
❑ Crew
❑ Cross Country M / F
❑ Diving M / F
❑ Field Hockey M / F
❑ Football
❑ Golf M / F
❑ Gymnastics
❑ Hockey
❑ Soccer M / F
❑ Softball
❑ Swimming M / F
❑ Tennis M / F
❑ Track & Field M / F
❑ Wrestling
❑ Volleyball M / F
❑ Other ___________ M / F

Of all the sports you coach, in which sport do you have the most sport-related injuries? _______

- How many athletes are on this team? __________
- Are you the head or assistant coach of this team? ❑ Head Coach ❑ Asst. Coach

Does your institution provide your athletes with access to a physician for sport injuries? ❑ Yes ❑ No

Does your institution pay some or all of the cost of athletes' visits to physicians for sport injuries? ❑ Yes ❑ No

Is an athletic trainer available to your athletes on a regular basis (at least twice per week)? ❑ Yes ❑ No

Have you ever been trained and certified in CPR and First Aid? ❑ Yes ❑ No

Are your CPR and First Aid certifications expired (in need of renewal)? ❑ Yes ❑ No

Have you had an athlete on your team who experienced an injury severe enough to cause him/her to miss several weeks of practice and/or competition? ❑ Yes ❑ No
**If yes, what was the nature of the injury or injuries?**

****OVER****

In the space below, state the most significant sport injury you had when you were an athlete. If you had no sport injuries during your sport career, write "none" in the space below.

Check the best description of the injury you stated above. ❑ Minor ❑ Moderate ❑ Major

Did the injury stated above permanently end your career as an athlete in the sport?
❑ Yes ❑ No

Do you experience any continuing effects from your sport injuries? ❑ Yes ❑ No
If yes, briefly describe.

APPENDIX C

Interpersonal Reactivity Index (IRI)

# Interpersonal Reactivity Index

**Directions:** Read each statement listed below and indicate the degree to which the statement describes you by circling the number that best corresponds to your thoughts. There is no right or wrong answer. Just indicate how much the statement describes you.

| | Does not describe me well | | | | Describes me very well |
|---|---|---|---|---|---|
| 1. I daydream and fantasize, with some regularity, about things that might happen to me. | 0 | 1 | 2 | 3 | 4 |
| 2. I often have tender, concerned feelings for people less fortunate than me. | 0 | 1 | 2 | 3 | 4 |
| 3. I sometimes find it difficult to see things from the "other person's" point of view. | 0 | 1 | 2 | 3 | 4 |
| 4. Sometimes I don't feel very sorry for other people when they are having problems. | 0 | 1 | 2 | 3 | 4 |
| 5. I really get involved with the feelings of the characters in a novel. | 0 | 1 | 2 | 3 | 4 |
| 6. In emergency situations, I feel apprehensive and ill-at-ease. | 0 | 1 | 2 | 3 | 4 |
| 7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. | 0 | 1 | 2 | 3 | 4 |
| 8. I try to look at everybody's side of a disagreement before I make a decision. | 0 | 1 | 2 | 3 | 4 |
| 9. When I see someone being taken advantage of, I feel kind of protective toward them. | 0 | 1 | 2 | 3 | 4 |
| 10. I sometimes feel helpless when I am in the middle of a very emotional situation. | 0 | 1 | 2 | 3 | 4 |
| 11. I sometimes try to understand my friends better by imagining how things look from their perspective. | 0 | 1 | 2 | 3 | 4 |
| 12. Becoming extremely involved in a good book or movie is somewhat rare for me. | 0 | 1 | 2 | 3 | 4 |
| 13. When I see someone get hurt, I tend to remain calm. | 0 | 1 | 2 | 3 | 4 |
| 14. Other people's misfortunes do not usually disturb me a great deal. | 0 | 1 | 2 | 3 | 4 |
| 15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. | 0 | 1 | 2 | 3 | 4 |

*******CONTINUE ON THE BACK SIDE OF THIS PAGE*******

| | Does not describe me well | | | | Describes me very well |
|---|---|---|---|---|---|
| 16. After seeing a play or movie, I have felt as though I were one of the characters. | 0 | 1 | 2 | 3 | 4 |
| 17. Being in a tense emotional situation scares me. | 0 | 1 | 2 | 3 | 4 |
| 18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. | 0 | 1 | 2 | 3 | 4 |
| 19. I am usually pretty effective in dealing with emergencies. | 0 | 1 | 2 | 3 | 4 |
| 20. I am often quite touched by things that I see happen. | 0 | 1 | 2 | 3 | 4 |
| 21. I believe that there are two sides to every question and try to look at them both. | 0 | 1 | 2 | 3 | 4 |
| 22. I would describe myself as a pretty soft-hearted person. | 0 | 1 | 2 | 3 | 4 |
| 23. When I watch a good movie, I can very easily put myself in the place of a leading character. | 0 | 1 | 2 | 3 | 4 |
| 24. I tend to lose control during emergencies. | 0 | 1 | 2 | 3 | 4 |
| 25. When I'm upset at someone, I usually try to "put myself in his/her shoes" for a while. | 0 | 1 | 2 | 3 | 4 |
| 26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me. | 0 | 1 | 2 | 3 | 4 |
| 27. When I see someone who badly needs help in an emergency, I go to pieces. | 0 | 1 | 2 | 3 | 4 |
| 28. Before criticizing somebody, I try to imagine how I would feel if I were in their place. | 0 | 1 | 2 | 3 | 4 |

# APPENDIX D

## Observer Group: Descriptive Scenarios, Causal Dimension Scale II (CDS II), and Additional Items

***The Coaches' Perceptions of Sport Injuries Questionnaire***
***Instructions***

This questionnaire describes several positive and negative events in sport. Please try to vividly imagine yourself as the coach in the situation. If such an event happened to one of your athletes, what would have caused it? While events may have many causes, we want you to pick only one – the single most likely cause if this event happened to one of your athletes. Please write this cause in the blank space provided. Then answer the questions about the causes and about the event. To summarize, we want you to:

1. Read each event and *vividly imagine it happening to ONE OF YOUR ATHLETES.*
2. Answer 3 questions about the event.
3. *Decide what you feel would be the single most likely cause* of the event if it happened to one of your athletes.
4. Write the most likely cause in the blank space provided.
5. Answer the 12 items about the cause.
6. Answer 3 additional questions about the event.
7. Go to the next event.

Treat each event independently, trying to vividly imagine yourself as the coach in the situation. Then answer the questions as they apply to how you would feel. Please note that *you can use any part of the rating scale when answering* a question. The labels at each end of the scale are only for your guidance. *Make sure that your answers accurately reflect how YOU would feel.*

**Please Continue**

You are the coach of an athlete who had surgery to repair ligaments damaged during a sport competition. The physical therapist gives your athlete rehabilitation exercises to complete at the therapist's office and at home. At the end of the 4-month rehab period, the physical therapist insists that your athlete has recovered sufficiently and is ready to return to sport participation on schedule. When your athlete returns to practice, he/she does not have any pain or discomfort in the injured area when performing sport skills.

How severe is your athlete's injury? ❑ Minor ❑ Moderate ❑ Major

Did your athlete comply with the rehabilitation protocol? ❑ Yes ❑ No

Was your athlete's recovery a success or failure? ❑ Successful ❑ Failure

What is ***the single most likely cause*** of your athlete being able to perform drills without pain or discomfort after recovery? Write your response in the box below.

Think about the reason you have written above. The items below concern your impressions or opinions of this cause of your athlete's recovery. Circle one number for each of the following questions.

***As the coach of the athlete, is the cause written in the box above something:***

| | | |
|---|---|---|
| 1. That reflects on an aspect of yourself | 9 8 7 6 5 4 3 2 1 | Reflects an aspect of the situation |
| 2. Manageable by you | 9 8 7 6 5 4 3 2 1 | Not manageable by you |
| 3. Permanent | 9 8 7 6 5 4 3 2 1 | Temporary |
| 4. You can regulate | 9 8 7 6 5 4 3 2 1 | You cannot regulate |
| 5. Over which others have control | 9 8 7 6 5 4 3 2 1 | Over which others have no control |
| 6. Inside of you | 9 8 7 6 5 4 3 2 1 | Outside of you |
| 7. Stable over time | 9 8 7 6 5 4 3 2 1 | Variable over time |
| 8. Under the power of other people | 9 8 7 6 5 4 3 2 1 | Not under the power of other people |
| 9. Something about you | 9 8 7 6 5 4 3 2 1 | Something about others |
| 10. Over which you have power | 9 8 7 6 5 4 3 2 1 | Over which you have no power |
| 11. Unchangeable | 9 8 7 6 5 4 3 2 1 | Changeable |
| 12. Other people can regulate | 9 8 7 6 5 4 3 2 1 | Other people cannot regulate |

Who is <u>most</u> responsible for your athlete being able to perform drills without pain or discomfort after recovery? **(check one)**

❑ Me – the coach ❑ the doctor ❑ the athlete's parents
❑ the athlete ❑ the athletic trainer/physical therapist ❑ other (specify) _________

When injured in the future, what is the likelihood that your athlete will have a similar recovery result?

Extremely likely 9 8 7 6 5 4 3 2 1 0 Not at all likely

How easily were you able to place yourself as the coach in this scenario?

Extremely easy 9 8 7 6 5 4 3 2 1 0 Not all easy

When you imagine the scenario above, what is the sex of the athlete? ❑ Female ❑ Male

When you imagine the scenario above, in what sport does the athlete compete? _________________ O-S

| |
|---|
| You are the coach of an athlete who experiences a severe, 3rd degree ankle sprain during competition. The doctor recommends that your athlete sit out practice and competition for the next 10 days while doing rehabilitation exercises. When your athlete returns to practice, he/she favors the injured ankle and has difficulty completing sport drills. |

How severe is your athlete's injury? ❑ Minor ❑ Moderate ❑ Major

Did your athlete comply with the rehabilitation protocol? ❑ Yes ❑ No

Was your athlete's recovery a success or failure? ❑ Successful ❑ Failure

What is ***the single most likely cause*** of your athlete favoring the injured ankle and having difficulty doing sport drills? Write your response in the box below.

Think about the reason you have written above. The items below concern your impressions or opinions of this cause of your athlete's recovery. Circle one number for each of the following questions.

***As the coach of the athlete, is the cause written in the box above something:***

| | | | |
|---|---|---|---|
| 1. | That reflects on an aspect of yourself | 9 8 7 6 5 4 3 2 1 | Reflects an aspect of the situation |
| 2. | Manageable by you | 9 8 7 6 5 4 3 2 1 | Not manageable by you |
| 3. | Permanent | 9 8 7 6 5 4 3 2 1 | Temporary |
| 4. | You can regulate | 9 8 7 6 5 4 3 2 1 | You cannot regulate |
| 5. | Over which others have control | 9 8 7 6 5 4 3 2 1 | Over which others have no control |
| 6. | Inside of you | 9 8 7 6 5 4 3 2 1 | Outside of you |
| 7. | Stable over time | 9 8 7 6 5 4 3 2 1 | Variable over time |
| 8. | Under the power of other people | 9 8 7 6 5 4 3 2 1 | Not under the power of other people |
| 9. | Something about you | 9 8 7 6 5 4 3 2 1 | Something about others |
| 10. | Over which you have power | 9 8 7 6 5 4 3 2 1 | Over which you have no power |
| 11. | Unchangeable | 9 8 7 6 5 4 3 2 1 | Changeable |
| 12. | Other people can regulate | 9 8 7 6 5 4 3 2 1 | Other people cannot regulate |

Who is <u>most</u> responsible for your athlete favoring the injured ankle and having difficulty doing sport drills? **(check one)**

❑ Me – the coach ❑ the doctor ❑ the athlete's parents
❑ the athlete ❑ the athletic trainer/physical therapist ❑ other (specify) ______

When injured in the future, what is the likelihood that your athlete will have a similar recovery result?

Extremely likely 9 8 7 6 5 4 3 2 1 0 Not at all likely

How easily were you able to place yourself as the coach in this scenario?

Extremely easy 9 8 7 6 5 4 3 2 1 0 Not all easy

When you imagine the scenario above, what is the sex of the athlete? ❑ Female ❑ Male

When you imagine the scenario above, in what sport does the athlete compete? ____________________

O-F

# APPENDIX E

## Perspective-taking Group: Descriptive Scenarios, Causal Dimension Scale II (CDS II), and Additional Items

***Perceptions of Sport Injuries Questionnaire***
***Instructions***

This questionnaire describes several positive and negative events in sport. Please try to vividly imagine yourself as the athlete in the situation. If such an event happened to you, what would have caused it? While events may have many causes, we want you to pick only one – the single most likely cause if this event happened to you. Please write this cause in the blank space provided. Then answer the questions about the causes and about the event. To summarize, we want you to:

1. Read each event and *vividly imagine it happening to YOU*.
2. Answer 3 questions about the event.
3. *Decide what you feel would be the single most likely cause* of the event if it happened to you.
4. Write the most likely cause in the blank space provided.
5. Answer the 12 items about the cause.
6. Answer 3 additional questions about the event.
7. Go to the next event.

Treat each event independently, trying to vividly imagine yourself as the athlete in the situation. Then answer the questions as they apply to how you would feel. Please note that *you can use any part of the rating scale when answering* a question. The labels at each end of the scale are only for your guidance. *Make sure that your answers accurately reflect how YOU would feel.*

**Please Continue**

| |
|---|
| You are an athlete who had surgery to repair ligaments damaged during a sport competition. Your physical therapist gives you rehabilitation exercises to complete at the therapist's office and at home. At the end of the 4-month rehab period, the physical therapist insists that you have recovered sufficiently and you are ready to return to sport participation on schedule. When you return to practice, you do not have any pain or discomfort in the injured area when performing sport skills. |

How severe is your injury? ❑ Minor ❑ Moderate ❑ Major

Did you comply with the rehabilitation protocol? ❑ Yes ❑ No

Was your recovery a success or failure? ❑ Successful ❑ Failure

What is ***the single most likely cause*** of your being able to perform sport skills without pain or discomfort after recovery? Write your response in the box below.

Think about the reason you have written above. The items below concern your impressions or opinions of this cause of your recovery. Circle one number for each of the following questions.

***As the athlete, is the cause written in the box above something:***

| | | | |
|---|---|---|---|
| 1. | That reflects on an aspect of yourself | 9 8 7 6 5 4 3 2 1 | Reflects an aspect of the situation |
| 2. | Manageable by you | 9 8 7 6 5 4 3 2 1 | Not manageable by you |
| 3. | Permanent | 9 8 7 6 5 4 3 2 1 | Temporary |
| 4. | You can regulate | 9 8 7 6 5 4 3 2 1 | You cannot regulate |
| 5. | Over which others have control | 9 8 7 6 5 4 3 2 1 | Over which others have no control |
| 6. | Inside of you | 9 8 7 6 5 4 3 2 1 | Outside of you |
| 7. | Stable over time | 9 8 7 6 5 4 3 2 1 | Variable over time |
| 8. | Under the power of other people | 9 8 7 6 5 4 3 2 1 | Not under the power of other people |
| 9. | Something about you | 9 8 7 6 5 4 3 2 1 | Something about others |
| 10. | Over which you have power | 9 8 7 6 5 4 3 2 1 | Over which you have no power |
| 11. | Unchangeable | 9 8 7 6 5 4 3 2 1 | Changeable |
| 12. | Other people can regulate | 9 8 7 6 5 4 3 2 1 | Other people cannot regulate |

Who is <u>most</u> responsible for your being able to perform sport skills without pain or discomfort after recovery? **(check one)**

❑ Me – the athlete ❑ my doctor ❑ my parents
❑ my coach ❑ my athletic trainer/physical therapist ❑ other (specify) ________

When injured in the future, what is the likelihood that you will have a similar recovery result?

Extremely likely 9 8 7 6 5 4 3 2 1 0 Not at all likely

How easily were you able to place yourself as the athlete in this scenario?

Extremely easy 9 8 7 6 5 4 3 2 1 0 Not all easy

In the scenario above, in what sport do you compete? ____________________________

PT-S

| |
|---|
| You are an athlete who experiences a severe, 3rd degree ankle sprain during competition. The doctor recommends that you sit out practice and competition for the next 10 days while doing rehabilitation exercises. When you return to practice, you favor the injured ankle and have difficulty completing sport drills. |

How severe is your injury? ❑ Minor ❑ Moderate ❑ Major

Did you comply with the rehabilitation protocol? ❑ Yes ❑ No

Was your recovery a success or failure? ❑ Successful ❑ Failure

What is ***the single most likely cause*** of your favoring the injured ankle and having difficulty doing sport drills? Write your response in the box below.

Think about the reason you have written above. The items below concern your impressions or opinions of this cause of your recovery. Circle one number for each of the following questions.
***As the athlete, is the cause written in the box above something:***

| | | | |
|---|---|---|---|
| 1. | That reflects on an aspect of yourself | 9 8 7 6 5 4 3 2 1 | Reflects an aspect of the situation |
| 2. | Manageable by you | 9 8 7 6 5 4 3 2 1 | Not manageable by you |
| 3. | Permanent | 9 8 7 6 5 4 3 2 1 | Temporary |
| 4. | You can regulate | 9 8 7 6 5 4 3 2 1 | You cannot regulate |
| 5. | Over which others have control | 9 8 7 6 5 4 3 2 1 | Over which others have no control |
| 6. | Inside of you | 9 8 7 6 5 4 3 2 1 | Outside of you |
| 7. | Stable over time | 9 8 7 6 5 4 3 2 1 | Variable over time |
| 8. | Under the power of other people | 9 8 7 6 5 4 3 2 1 | Not under the power of other people |
| 9. | Something about you | 9 8 7 6 5 4 3 2 1 | Something about others |
| 10. | Over which you have power | 9 8 7 6 5 4 3 2 1 | Over which you have no power |
| 11. | Unchangeable | 9 8 7 6 5 4 3 2 1 | Changeable |
| 12. | Other people can regulate | 9 8 7 6 5 4 3 2 1 | Other people cannot regulate |

Who is <u>most</u> responsible for your favoring the injured ankle and having difficulty doing sport drills? **(check one)**

❑ Me – the athlete ❑ my doctor ❑ my parents
❑ my coach ❑ my athletic trainer/physical therapist ❑ other (specify) _____

When injured in the future, what is the likelihood that you will have a similar recovery result?

Extremely likely 9 8 7 6 5 4 3 2 1 0 Not at all likely

How easily were you able to place yourself as the athlete in this scenario?

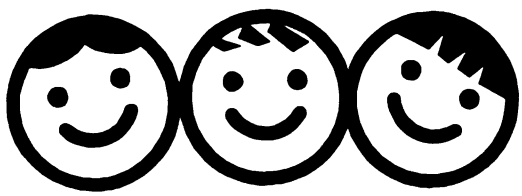
Extremely easy 9 8 7 6 5 4 3 2 1 0 Not all easy

In the scenario above, in what sport do you compete? ____________________________

PT-F

APPENDIX F

Thank You Page for Survey Instruments



**Thank You for Your Cooperation**

Please return your consent form and questionnaires to
Dawn Lewis
39 IM Sports Circle
Michigan State University
East Lansing, MI 48824

Appendix G

Reminder Postcard

# A Friendly Reminder

**Please complete and return your consent form and questionnaires for the**

**Coaches' Perceptions of Sport Injuries Study**

**Your participation in the study is greatly appreciated.**

**If you have already completed and returned your questionnaires, thank you for your participation.**

Dawn Lewis, M.S.
Department of Kinesiology
Michigan State University
lewisdaw@msu.edu

# APPENDIX H

## Descriptive Statistics for Hypothesis #6 Analyses

Table H1

*For the Successful Recovery Scenario, Descriptive Statistics of within the CC Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Fantasy by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Fantasy* | *Coaches' Sex* | *N* | *M* | *SD* |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low | female | 2 | 16.50 | 0.71 |
| | | | male | 1 | 3.00 | . |
| | | | Total | 3 | 12.00 | 7.81 |
| | | High | female | 5 | 12.00 | 5.57 |
| | | | male | 1 | 9.00 | . |
| | | | Total | 6 | 11.50 | 5.13 |
| | | Total | female | 7 | 13.29 | 5.06 |
| | | | male | 2 | 6.00 | 4.24 |
| | | | Total | 9 | 11.67 | 5.63 |
| | mod./major | Low | female | 6 | 7.50 | 3.73 |
| | | | male | 7 | 13.14 | 7.82 |
| | | | Total | 13 | 10.54 | 6.70 |
| | | High | female | 9 | 11.00 | 4.85 |
| | | | male | 3 | 10.00 | 12.12 |
| | | | Total | 12 | 10.75 | 6.63 |
| | | Total | female | 15 | 9.60 | 4.64 |
| | | | male | 10 | 12.20 | 8.70 |
| | | | Total | 25 | 10.64 | 6.53 |
| | Total | Low | female | 8 | 9.75 | 5.23 |
| | | | male | 8 | 11.88 | 8.08 |
| | | | Total | 16 | 10.81 | 6.67 |
| | | High | female | 14 | 11.36 | 4.92 |
| | | | male | 4 | 9.75 | 9.91 |
| | | | Total | 18 | 11.00 | 6.03 |
| | | Total | female | 22 | 10.77 | 4.98 |
| | | | male | 12 | 11.17 | 8.33 |
| | | | Total | 34 | 10.91 | 6.24 |
| Stability | none/minor | Low | female | 2 | 11.00 | 2.83 |
| | | | male | 1 | 11.00 | . |
| | | | Total | 3 | 11.00 | 2.00 |
| | | High | female | 5 | 13.00 | 4.12 |
| | | | male | 1 | 18.00 | . |
| | | | Total | 6 | 13.83 | 4.22 |
| | | Total | female | 7 | 12.43 | 3.69 |
| | | | male | 2 | 14.50 | 4.95 |
| | | | Total | 9 | 12.89 | 3.76 |
| | mod./major | Low | female | 6 | 15.67 | 8.52 |
| | | | male | 7 | 13.86 | 1.95 |
| | | | Total | 13 | 14.69 | 5.75 |
| | | High | female | 9 | 13.22 | 4.18 |
| | | | male | 3 | 11.33 | 5.69 |
| | | | Total | 12 | 12.75 | 4.39 |
| | | Total | female | 15 | 14.20 | 6.12 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | male | 10 | 13.10 | 3.35 |
| | | | Total | 25 | 13.76 | 5.13 |
| | Total | Low | female | 8 | 14.50 | 7.60 |
| | | | male | 8 | 13.50 | 2.07 |
| | | | Total | 16 | 14.00 | 5.40 |
| | | High | female | 14 | 13.14 | 4.00 |
| | | | male | 4 | 13.00 | 5.72 |
| | | | Total | 18 | 13.11 | 4.24 |
| | | Total | female | 22 | 13.64 | 5.44 |
| | | | male | 12 | 13.33 | 3.42 |
| | | | Total | 34 | 13.53 | 4.77 |
| Personal Control | none/minor | Low | female | 2 | 14.50 | 0.71 |
| | | | male | 1 | 15.00 | . |
| | | | Total | 3 | 14.67 | 0.58 |
| | | High | female | 5 | 10.00 | 4.30 |
| | | | male | 1 | 9.00 | . |
| | | | Total | 6 | 9.83 | 3.87 |
| | | Total | female | 7 | 11.29 | 4.15 |
| | | | male | 2 | 12.00 | 4.24 |
| | | | Total | 9 | 11.44 | 3.91 |
| | mod./major | Low | female | 6 | 11.83 | 4.88 |
| | | | male | 7 | 12.57 | 7.72 |
| | | | Total | 13 | 12.23 | 6.31 |
| | | High | female | 9 | 12.67 | 6.36 |
| | | | male | 3 | 8.33 | 5.86 |
| | | | Total | 12 | 11.58 | 6.29 |
| | | Total | female | 15 | 12.33 | 5.64 |
| | | | male | 10 | 11.30 | 7.18 |
| | | | Total | 25 | 11.92 | 6.18 |
| | Total | Low | female | 8 | 12.50 | 4.31 |
| | | | male | 8 | 12.88 | 7.20 |
| | | | Total | 16 | 12.69 | 5.74 |
| | | High | female | 14 | 11.71 | 5.69 |
| | | | male | 4 | 8.50 | 4.80 |
| | | | Total | 18 | 11.00 | 5.54 |
| | | Total | female | 22 | 12.00 | 5.14 |
| | | | male | 12 | 11.42 | 6.63 |
| | | | Total | 34 | 11.79 | 5.61 |
| External Control | none/minor | Low | female | 2 | 21.00 | 8.49 |
| | | | male | 1 | 27.00 | . |
| | | | Total | 3 | 23.00 | 6.93 |
| | | High | female | 5 | 21.00 | 5.24 |
| | | | male | 1 | 16.00 | . |
| | | | Total | 6 | 20.17 | 5.12 |
| | | Total | female | 7 | 21.00 | 5.51 |
| | | | male | 2 | 21.50 | 7.78 |
| | | | Total | 9 | 21.11 | 5.51 |
| | mod./major | Low | female | 6 | 19.00 | 5.87 |
| | | | male | 7 | 20.00 | 6.68 |
| | | | Total | 13 | 19.54 | 6.08 |

| | | | | | |
|---|---|---|---|---|---|
| | High | female | 9 | 16.33 | 6.91 |
| | | male | 3 | 18.33 | 13.32 |
| | | Total | 12 | 16.83 | 8.23 |
| | Total | female | 15 | 17.40 | 6.43 |
| | | male | 10 | 19.50 | 8.36 |
| | | Total | 25 | 18.24 | 7.17 |
| Total | Low | female | 8 | 19.50 | 5.98 |
| | | male | 8 | 20.88 | 6.66 |
| | | Total | 16 | 20.19 | 6.16 |
| | High | female | 14 | 18.00 | 6.58 |
| | | male | 4 | 17.75 | 10.94 |
| | | Total | 18 | 17.94 | 7.36 |
| | Total | female | 22 | 18.55 | 6.26 |
| | | male | 12 | 19.83 | 7.95 |
| | | Total | 34 | 19.00 | 6.81 |

Table H2

*For the Successful Recovery Scenario, Descriptive Statistics of within the CC Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Empathic Concern by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Empathic Concern* | *Coaches' Sex* | *N* | *M* | *SD* |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low-Neutral | female | 3 | 19.00 | 4.36 |
| | | | male | 1 | 7.00 | . |
| | | | Total | 4 | 16.00 | 6.98 |
| | | High | female | 7 | 10.71 | 5.06 |
| | | | male | 2 | 6.00 | 4.24 |
| | | | Total | 9 | 9.67 | 5.07 |
| | | Total | female | 10 | 13.20 | 6.11 |
| | | | male | 3 | 6.33 | 3.06 |
| | | | Total | 13 | 11.62 | 6.21 |
| | mod./major | Low-Neutral | female | 2 | 7.00 | 5.66 |
| | | | male | 4 | 7.75 | 5.85 |
| | | | Total | 6 | 7.50 | 5.21 |
| | | High | female | 21 | 9.52 | 4.46 |
| | | | male | 13 | 11.31 | 8.31 |
| | | | Total | 34 | 10.21 | 6.16 |
| | | Total | female | 23 | 9.30 | 4.48 |
| | | | male | 17 | 10.47 | 7.79 |
| | | | Total | 40 | 9.80 | 6.04 |
| | Total | Low-Neutral | female | 5 | 14.20 | 7.79 |
| | | | male | 5 | 7.60 | 5.08 |
| | | | Total | 10 | 10.90 | 7.11 |
| | | High | female | 28 | 9.82 | 4.55 |
| | | | male | 15 | 10.60 | 8.00 |
| | | | Total | 43 | 10.09 | 5.90 |
| | | Total | female | 33 | 10.48 | 5.25 |
| | | | male | 20 | 9.85 | 7.37 |
| | | | Total | 53 | 10.25 | 6.08 |
| Stability | none/minor | Low-Neutral | female | 3 | 12.67 | 3.51 |
| | | | male | 1 | 17.00 | . |
| | | | Total | 4 | 13.75 | 3.59 |
| | | High | female | 7 | 12.57 | 3.55 |
| | | | male | 2 | 14.50 | 4.95 |
| | | | Total | 9 | 13.00 | 3.64 |
| | | Total | female | 10 | 12.60 | 3.34 |
| | | | male | 3 | 15.33 | 3.79 |
| | | | Total | 13 | 13.23 | 3.49 |
| | mod./major | Low-Neutral | female | 2 | 20.00 | 9.90 |
| | | | male | 4 | 11.50 | 4.51 |
| | | | Total | 6 | 14.33 | 7.15 |
| | | High | female | 21 | 12.57 | 4.70 |
| | | | male | 13 | 12.54 | 4.33 |
| | | | Total | 34 | 12.56 | 4.49 |
| | | Total | female | 23 | 13.22 | 5.39 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | male | 17 | 12.29 | 4.25 |
| | | | Total | 40 | 12.83 | 4.90 |
| | Total | Low-Neutral | female | 5 | 15.60 | 6.84 |
| | | | male | 5 | 12.60 | 4.62 |
| | | | Total | 10 | 14.10 | 5.72 |
| | | High | female | 28 | 12.57 | 4.38 |
| | | | male | 15 | 12.80 | 4.28 |
| | | | Total | 43 | 12.65 | 4.29 |
| | | Total | female | 33 | 13.03 | 4.82 |
| | | | male | 20 | 12.75 | 4.24 |
| | | | Total | 53 | 12.92 | 4.57 |
| Personal Control | none/minor | Low-Neutral | female | 3 | 15.67 | 2.08 |
| | | | male | 1 | 13.00 | . |
| | | | Total | 4 | 15.00 | 2.16 |
| | | High | female | 7 | 11.57 | 5.44 |
| | | | male | 2 | 12.00 | 4.24 |
| | | | Total | 9 | 11.67 | 4.95 |
| | | Total | female | 10 | 12.80 | 4.96 |
| | | | male | 3 | 12.33 | 3.06 |
| | | | Total | 13 | 12.69 | 4.48 |
| | mod./major | Low-Neutral | female | 2 | 16.00 | 1.41 |
| | | | male | 4 | 8.50 | 3.70 |
| | | | Total | 6 | 11.00 | 4.86 |
| | | High | female | 21 | 11.90 | 5.34 |
| | | | male | 13 | 11.46 | 7.88 |
| | | | Total | 34 | 11.74 | 6.32 |
| | | Total | female | 23 | 12.26 | 5.23 |
| | | | male | 17 | 10.76 | 7.13 |
| | | | Total | 40 | 11.63 | 6.07 |
| | Total | Low-Neutral | female | 5 | 15.80 | 1.64 |
| | | | male | 5 | 9.40 | 3.78 |
| | | | Total | 10 | 12.60 | 4.35 |
| | | High | female | 28 | 11.82 | 5.26 |
| | | | male | 15 | 11.53 | 7.39 |
| | | | Total | 43 | 11.72 | 6.00 |
| | | Total | female | 33 | 12.42 | 5.08 |
| | | | male | 20 | 11.00 | 6.64 |
| | | | Total | 53 | 11.89 | 5.70 |
| External Control | none/minor | Low-Neutral | female | 3 | 19.00 | 6.93 |
| | | | male | 1 | 19.00 | . |
| | | | Total | 4 | 19.00 | 5.66 |
| | | High | female | 7 | 18.57 | 5.97 |
| | | | male | 2 | 21.50 | 7.78 |
| | | | Total | 9 | 19.22 | 6.00 |
| | | Total | female | 10 | 18.70 | 5.87 |
| | | | male | 3 | 20.67 | 5.69 |
| | | | Total | 13 | 19.15 | 5.65 |
| | mod./major | Low-Neutral | female | 2 | 16.50 | 2.12 |
| | | | male | 4 | 16.50 | 10.47 |
| | | | Total | 6 | 16.50 | 8.17 |

| | | | | | |
|---|---|---|---|---|---|
| | High | female | 21 | 18.57 | 6.12 |
| | | male | 13 | 18.77 | 8.50 |
| | | Total | 34 | 18.65 | 7.00 |
| | Total | female | 23 | 18.39 | 5.88 |
| | | male | 17 | 18.24 | 8.70 |
| | | Total | 40 | 18.33 | 7.11 |
| Total | Low-Neutral | female | 5 | 18.00 | 5.20 |
| | | male | 5 | 17.00 | 9.14 |
| | | Total | 10 | 17.50 | 7.03 |
| | High | female | 28 | 18.57 | 5.97 |
| | | male | 15 | 19.13 | 8.19 |
| | | Total | 43 | 18.77 | 6.74 |
| | Total | female | 33 | 18.48 | 5.79 |
| | | male | 20 | 18.60 | 8.24 |
| | | Total | 53 | 18.53 | 6.74 |

Table H3

*For the successful recovery scenario, descriptive statistics of within the CC condition 2 x 2 MANCOVA injury severity by level of perspective-taking*

| *CDSII Scale* | *Injury Severity* | *Level of Perspective-Taking* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low-Neutral | 4 | 13.25 | 3.86 |
| | | High | 9 | 10.89 | 7.10 |
| | | Total | 13 | 11.62 | 6.21 |
| | mod./major injury | Low-Neutral | 9 | 7.56 | 5.05 |
| | | High | 31 | 10.45 | 6.22 |
| | | Total | 40 | 9.80 | 6.04 |
| | Total | Low-Neutral | 13 | 9.31 | 5.31 |
| | | High | 40 | 10.55 | 6.34 |
| | | Total | 53 | 10.25 | 6.08 |
| Stability | | | | | |
| | none/minor injury | Low-Neutral | 4 | 14.00 | 3.92 |
| | | High | 9 | 12.89 | 3.48 |
| | | Total | 13 | 13.23 | 3.49 |
| | mod./major injury | Low-Neutral | 9 | 12.00 | 4.56 |
| | | High | 31 | 13.06 | 5.05 |
| | | Total | 40 | 12.83 | 4.90 |
| | Total | Low-Neutral | 13 | 12.62 | 4.31 |
| | | High | 40 | 13.03 | 4.70 |
| | | Total | 53 | 12.92 | 4.57 |
| Personal Control | | | | | |
| | none/minor injury | Low-Neutral | 4 | 12.00 | 2.94 |
| | | High | 9 | 13.00 | 5.15 |
| | | Total | 13 | 12.69 | 4.48 |
| | mod./major injury | Low-Neutral | 9 | 9.78 | 3.93 |
| | | High | 31 | 12.16 | 6.52 |
| | | Total | 40 | 11.63 | 6.07 |
| | Total | Low-Neutral | 13 | 10.46 | 3.69 |
| | | High | 40 | 12.35 | 6.18 |
| | | Total | 53 | 11.89 | 5.70 |
| External Control | | | | | |
| | none/minor injury | Low-Neutral | 4 | 17.75 | 6.29 |
| | | High | 9 | 19.78 | 5.63 |
| | | Total | 13 | 19.15 | 5.65 |
| | mod./major injury | Low-Neutral | 9 | 18.44 | 7.50 |
| | | High | 31 | 18.29 | 7.12 |
| | | Total | 40 | 18.33 | 7.11 |
| | Total | Low-Neutral | 13 | 18.23 | 6.89 |
| | | High | 40 | 18.63 | 6.78 |
| | | Total | 53 | 18.53 | 6.74 |

Table H4

*For the successful recovery scenario, descriptive statistics of within the CC condition 2 x 2 MANCOVA injury severity by level of personal distress*

| *CDSII Scale* | *Injury Severity* | *Level of Personal Distress* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low | 8 | 14.38 | 6.23 |
| | | Neutral | 5 | 7.20 | 2.86 |
| | | Total | 13 | 11.62 | 6.21 |
| | mod./major injury | Low | 30 | 9.77 | 6.06 |
| | | Neutral | 10 | 9.90 | 6.31 |
| | | Total | 40 | 9.80 | 6.04 |
| | Total | Low | 38 | 10.74 | 6.31 |
| | | Neutral | 15 | 9.00 | 5.45 |
| | | Total | 53 | 10.25 | 6.08 |
| Stability | | | | | |
| | none/minor injury | Low | 8 | 13.25 | 3.81 |
| | | Neutral | 5 | 13.20 | 3.35 |
| | | Total | 13 | 13.23 | 3.49 |
| | mod./major injury | Low | 30 | 12.77 | 4.64 |
| | | Neutral | 10 | 13.00 | 5.91 |
| | | Total | 40 | 12.83 | 4.90 |
| | Total | Low | 38 | 12.87 | 4.43 |
| | | Neutral | 15 | 13.07 | 5.06 |
| | | Total | 53 | 12.92 | 4.57 |
| Personal Control | | | | | |
| | none/minor injury | Low | 8 | 12.50 | 4.04 |
| | | Neutral | 5 | 13.00 | 5.61 |
| | | Total | 13 | 12.69 | 4.48 |
| | mod./major injury | Low | 30 | 11.77 | 6.54 |
| | | Neutral | 10 | 11.20 | 4.66 |
| | | Total | 40 | 11.63 | 6.07 |
| | Total | Low | 38 | 11.92 | 6.06 |
| | | Neutral | 15 | 11.80 | 4.87 |
| | | Total | 53 | 11.89 | 5.70 |
| External Control | | | | | |
| | none/minor injury | Low | 8 | 19.13 | 5.64 |
| | | Neutral | 5 | 19.20 | 6.34 |
| | | Total | 13 | 19.15 | 5.65 |
| | mod./major injury | Low | 30 | 18.33 | 7.16 |
| | | Neutral | 10 | 18.30 | 7.35 |
| | | Total | 40 | 18.33 | 7.11 |
| | Total | Low | 38 | 18.50 | 6.81 |
| | | Neutral | 15 | 18.60 | 6.81 |
| | | Total | 53 | 18.53 | 6.74 |

Table H5

*For the Successful Recovery Scenario, Descriptive Statistics of within the CA Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Fantasy by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Fantasy* | *Coaches' Sex* | *N* | *M* | *SD* |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low | female | 2 | 22.50 | 2.12 |
| | | | male | 2 | 22.50 | 2.12 |
| | | | Total | 5 | 23.40 | 3.51 |
| | | High | female | 1 | 12.00 | . |
| | | | male | 6 | 21.50 | 5.61 |
| | | | Total | 7 | 23.14 | 3.02 |
| | | Total | female | 1 | 12.00 | . |
| | | | male | 8 | 21.75 | 4.83 |
| | | | Total | 3 | 25.33 | 1.53 |
| | mod./major | Low | female | 10 | 22.20 | 7.41 |
| | | | male | 13 | 22.92 | 6.59 |
| | | | Total | 11 | 22.36 | 4.03 |
| | | High | female | 5 | 17.20 | 4.66 |
| | | | male | 16 | 20.75 | 4.77 |
| | | | Total | 14 | 23.00 | 3.80 |
| | | Total | female | 15 | 20.53 | 6.89 |
| | | | male | 29 | 21.72 | 5.66 |
| | | | Total | 5 | 24.20 | 2.17 |
| | Total | Low | female | 10 | 22.20 | 7.41 |
| | | | male | 15 | 22.87 | 6.13 |
| | | | Total | 16 | 22.69 | 3.79 |
| | | High | female | 6 | 16.33 | 4.68 |
| | | | male | 22 | 20.95 | 4.88 |
| | | | Total | 21 | 23.05 | 3.49 |
| | | Total | female | 16 | 20.00 | 6.99 |
| | | | male | 37 | 21.73 | 5.42 |
| | | | Total | 2 | 15.00 | 9.90 |
| Stability | none/minor | Low | female | 2 | 15.00 | 9.90 |
| | | | male | 5 | 15.80 | 4.09 |
| | | | Total | 1 | 19.00 | . |
| | | High | female | 6 | 16.33 | 3.88 |
| | | | male | 7 | 15.57 | 5.26 |
| | | | Total | 1 | 19.00 | . |
| | | Total | female | 8 | 16.00 | 5.01 |
| | | | male | 3 | 18.33 | 8.50 |
| | | | Total | 10 | 19.50 | 4.62 |
| | mod./major | Low | female | 13 | 19.23 | 5.33 |
| | | | male | 11 | 17.64 | 5.71 |
| | | | Total | 5 | 13.60 | 4.04 |
| | | High | female | 16 | 16.38 | 5.46 |
| | | | male | 14 | 17.79 | 6.03 |
| | | | Total | 15 | 17.53 | 5.17 |
| | | Total | female | 29 | 17.66 | 5.50 |
| | | | male | 5 | 17.00 | 8.00 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Total | 10 | 19.50 | 4.62 |
| | Total | Low | female | 15 | 18.67 | 5.79 |
| | | | male | 16 | 17.06 | 5.20 |
| | | | Total | 6 | 14.50 | 4.23 |
| | | High | female | 22 | 16.36 | 4.99 |
| | | | male | 21 | 17.05 | 5.75 |
| | | | Total | 16 | 17.63 | 5.00 |
| | | Total | female | 37 | 17.30 | 5.37 |
| | | | male | 2 | 27.00 | 0.00 |
| | | | Total | 2 | 27.00 | 0.00 |
| Personal Control | none/minor | Low | female | 5 | 21.20 | 5.93 |
| | | | male | 1 | 8.00 | . |
| | | | Total | 6 | 19.00 | 7.56 |
| | | High | female | 7 | 22.86 | 5.61 |
| | | | male | 1 | 8.00 | . |
| | | | Total | 8 | 21.00 | 7.39 |
| | | Total | female | 3 | 23.33 | 5.51 |
| | | | male | 10 | 22.20 | 7.08 |
| | | | Total | 13 | 22.46 | 6.55 |
| | mod./major | Low | female | 11 | 23.09 | 3.56 |
| | | | male | 5 | 21.00 | 3.39 |
| | | | Total | 16 | 22.44 | 3.54 |
| | | High | female | 14 | 23.14 | 3.80 |
| | | | male | 15 | 21.80 | 5.99 |
| | | | Total | 29 | 22.45 | 5.01 |
| | | Total | female | 5 | 24.80 | 4.38 |
| | | | male | 10 | 22.20 | 7.08 |
| | | | Total | 15 | 23.07 | 6.27 |
| | Total | Low | female | 16 | 22.50 | 4.32 |
| | | | male | 6 | 18.83 | 6.11 |
| | | | Total | 22 | 21.50 | 5.00 |
| | | High | female | 21 | 23.05 | 4.34 |
| | | | male | 16 | 20.94 | 6.74 |
| | | | Total | 37 | 22.14 | 5.52 |
| | | Total | female | 2 | 10.00 | 0.00 |
| | | | male | 2 | 10.00 | 0.00 |
| | | | Total | 5 | 10.80 | 6.46 |
| External Control | none/minor | Low | female | 1 | 3.00 | . |
| | | | male | 6 | 9.50 | 6.60 |
| | | | Total | 7 | 10.57 | 5.29 |
| | | High | female | 1 | 3.00 | . |
| | | | male | 8 | 9.63 | 5.58 |
| | | | Total | 3 | 16.67 | 3.51 |
| | | Total | female | 10 | 15.20 | 7.27 |
| | | | male | 13 | 15.54 | 6.49 |
| | | | Total | 11 | 9.82 | 5.19 |
| | mod./major | Low | female | 5 | 14.80 | 6.30 |
| | | | male | 16 | 11.38 | 5.85 |
| | | | Total | 14 | 11.29 | 5.58 |
| | | High | female | 15 | 15.07 | 6.73 |

| | | | | | |
|---|---|---|---|---|---|
| | | male | 29 | 13.24 | 6.39 |
| | | Total | 5 | 14.00 | 4.42 |
| | Total | female | 10 | 15.20 | 7.27 |
| | | male | 15 | 14.80 | 6.32 |
| | | Total | 16 | 10.13 | 5.41 |
| Total | Low | female | 6 | 12.83 | 7.41 |
| | | male | 22 | 10.86 | 5.96 |
| | | Total | 21 | 11.05 | 5.36 |
| | High | female | 16 | 14.31 | 7.17 |
| | | male | 37 | 12.46 | 6.33 |
| | | Total | | | |
| | Total | female | | | |
| | | male | | | |
| | | Total | | | |

Table H6

*For the Successful Recovery Scenario, Descriptive Statistics of Within the CA Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Empathic Concern by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Empathic Concern* | *Coaches' Sex* | *N* | *M* | *SD* |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low-Neutral | female | 1 | 15.00 | . |
| | | | male | 1 | 23.00 | . |
| | | | Total | 2 | 19.00 | 5.66 |
| | | High | female | 8 | 22.88 | 2.90 |
| | | | male | 4 | 18.50 | 5.80 |
| | | | Total | 12 | 21.42 | 4.38 |
| | | Total | female | 9 | 22.00 | 3.77 |
| | | | male | 5 | 19.40 | 5.41 |
| | | | Total | 14 | 21.07 | 4.41 |
| | mod./major | Low-Neutral | female | 2 | 23.00 | 5.66 |
| | | | male | 7 | 21.14 | 8.28 |
| | | | Total | 9 | 21.56 | 7.49 |
| | | High | female | 21 | 21.62 | 4.78 |
| | | | male | 13 | 19.62 | 5.62 |
| | | | Total | 34 | 20.85 | 5.13 |
| | | Total | female | 23 | 21.74 | 4.73 |
| | | | male | 20 | 20.15 | 6.49 |
| | | | Total | 43 | 21.00 | 5.61 |
| | Total | Low-Neutral | female | 3 | 20.33 | 6.11 |
| | | | male | 8 | 21.38 | 7.69 |
| | | | Total | 11 | 21.09 | 7.01 |
| | | High | female | 29 | 21.97 | 4.33 |
| | | | male | 17 | 19.35 | 5.50 |
| | | | Total | 46 | 21.00 | 4.90 |
| | | Total | female | 32 | 21.81 | 4.42 |
| | | | male | 25 | 20.00 | 6.19 |
| | | | Total | 57 | 21.02 | 5.30 |
| Stability | none/minor | Low-Neutral | female | 1 | 15.00 | . |
| | | | male | 1 | 19.00 | . |
| | | | Total | 2 | 17.00 | 2.83 |
| | | High | female | 8 | 15.13 | 5.03 |
| | | | male | 4 | 18.50 | 2.89 |
| | | | Total | 12 | 16.25 | 4.59 |
| | | Total | female | 9 | 15.11 | 4.70 |
| | | | male | 5 | 18.60 | 2.51 |
| | | | Total | 14 | 16.36 | 4.31 |
| | mod./major | Low-Neutral | female | 2 | 20.50 | 3.54 |
| | | | male | 7 | 19.00 | 5.07 |
| | | | Total | 9 | 19.33 | 4.61 |
| | | High | female | 21 | 17.19 | 5.93 |
| | | | male | 13 | 15.08 | 4.99 |
| | | | Total | 34 | 16.38 | 5.61 |
| | | Total | female | 23 | 17.48 | 5.78 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | male | 20 | 16.45 | 5.25 |
| | | | Total | 43 | 17.00 | 5.50 |
| | Total | Low-Neutral | female | 3 | 18.67 | 4.04 |
| | | | male | 8 | 19.00 | 4.69 |
| | | | Total | 11 | 18.91 | 4.32 |
| | | High | female | 29 | 16.62 | 5.68 |
| | | | male | 17 | 15.88 | 4.74 |
| | | | Total | 46 | 16.35 | 5.31 |
| | | Total | female | 32 | 16.81 | 5.53 |
| | | | male | 25 | 16.88 | 4.86 |
| | | | Total | 57 | 16.84 | 5.20 |
| Personal Control | none/minor | Low-Neutral | female | 1 | 18.00 | . |
| | | | male | 1 | 23.00 | . |
| | | | Total | 2 | 20.50 | 3.54 |
| | | High | female | 8 | 22.38 | 5.37 |
| | | | male | 4 | 17.75 | 7.50 |
| | | | Total | 12 | 20.83 | 6.24 |
| | | Total | female | 9 | 21.89 | 5.23 |
| | | | male | 5 | 18.80 | 6.91 |
| | | | Total | 14 | 20.79 | 5.82 |
| | mod./major | Low-Neutral | female | 2 | 25.50 | 2.12 |
| | | | male | 7 | 20.86 | 8.25 |
| | | | Total | 9 | 21.89 | 7.47 |
| | | High | female | 21 | 22.05 | 4.81 |
| | | | male | 13 | 22.85 | 3.05 |
| | | | Total | 34 | 22.35 | 4.19 |
| | | Total | female | 23 | 22.35 | 4.72 |
| | | | male | 20 | 22.15 | 5.32 |
| | | | Total | 43 | 22.26 | 4.95 |
| | Total | Low-Neutral | female | 3 | 23.00 | 4.58 |
| | | | male | 8 | 21.13 | 7.68 |
| | | | Total | 11 | 21.64 | 6.80 |
| | | High | female | 29 | 22.14 | 4.88 |
| | | | male | 17 | 21.65 | 4.74 |
| | | | Total | 46 | 21.96 | 4.78 |
| | | Total | female | 32 | 22.22 | 4.78 |
| | | | male | 25 | 21.48 | 5.68 |
| | | | Total | 57 | 21.89 | 5.16 |
| External Control | none/minor | Low-Neutral | female | 1 | 17.00 | . |
| | | | male | 1 | 12.00 | . |
| | | | Total | 2 | 14.50 | 3.54 |
| | | High | female | 8 | 10.88 | 4.97 |
| | | | male | 4 | 14.50 | 8.27 |
| | | | Total | 12 | 12.08 | 6.13 |
| | | Total | female | 9 | 11.56 | 5.08 |
| | | | male | 5 | 14.00 | 7.25 |
| | | | Total | 14 | 12.43 | 5.79 |
| | mod./major | Low-Neutral | female | 2 | 3.00 | 0.00 |
| | | | male | 7 | 13.86 | 8.40 |
| | | | Total | 9 | 11.44 | 8.71 |

| | | | | | |
|---|---|---|---|---|---|
| | High | female | 21 | 12.52 | 6.22 |
| | | male | 13 | 15.46 | 4.46 |
| | | Total | 34 | 13.65 | 5.73 |
| | Total | female | 23 | 11.70 | 6.53 |
| | | male | 20 | 14.90 | 5.96 |
| | | Total | 43 | 13.19 | 6.40 |
| Total | Low-Neutral | female | 3 | 7.67 | 8.08 |
| | | male | 8 | 13.63 | 7.80 |
| | | Total | 11 | 12.00 | 7.96 |
| | High | female | 29 | 12.07 | 5.86 |
| | | male | 17 | 15.24 | 5.29 |
| | | Total | 46 | 13.24 | 5.80 |
| | Total | female | 32 | 11.66 | 6.08 |
| | | male | 25 | 14.72 | 6.08 |
| | | Total | 57 | 13.00 | 6.22 |

Table H7

*For the successful recovery scenario, descriptive statistics of within the CA condition 2 x 2 MANCOVA injury severity by level of perspective-taking*

| *CDSII Scale* | *Injury Severity* | *Level of Perspective-Taking* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low-Neutral | 6 | 19.50 | 3.15 |
| | | High | 7 | 22.71 | 5.25 |
| | | Total | 13 | 21.23 | 4.55 |
| | mod./major injury | Low-Neutral | 12 | 20.83 | 6.82 |
| | | High | 30 | 20.93 | 5.23 |
| | | Total | 42 | 20.90 | 5.64 |
| | Total | Low-Neutral | 18 | 20.39 | 5.78 |
| | | High | 37 | 21.27 | 5.20 |
| | | Total | 55 | 20.98 | 5.36 |
| Stability | | | | | |
| | none/minor injury | Low-Neutral | 6 | 16.67 | 5.13 |
| | | High | 7 | 15.29 | 3.40 |
| | | Total | 13 | 15.92 | 4.15 |
| | mod./major injury | Low-Neutral | 12 | 18.08 | 5.48 |
| | | High | 30 | 16.43 | 5.57 |
| | | Total | 42 | 16.90 | 5.53 |
| | Total | Low-Neutral | 18 | 17.61 | 5.26 |
| | | High | 37 | 16.22 | 5.21 |
| | | Total | 55 | 16.67 | 5.22 |
| Personal Control | | | | | |
| | none/minor injury | Low-Neutral | 6 | 20.17 | 5.67 |
| | | High | 7 | 21.43 | 6.75 |
| | | Total | 13 | 20.85 | 6.05 |
| | mod./major injury | Low-Neutral | 12 | 21.17 | 6.90 |
| | | High | 30 | 22.63 | 4.08 |
| | | Total | 42 | 22.21 | 5.00 |
| | Total | Low-Neutral | 18 | 20.83 | 6.36 |
| | | High | 37 | 22.41 | 4.61 |
| | | Total | 55 | 21.89 | 5.24 |
| External Control | | | | | |
| | none/minor injury | Low-Neutral | 6 | 11.83 | 4.83 |
| | | High | 7 | 11.86 | 6.54 |
| | | Total | 13 | 11.85 | 5.58 |
| | mod./major injury | Low-Neutral | 12 | 11.17 | 7.09 |
| | | High | 30 | 14.03 | 6.15 |
| | | Total | 42 | 13.21 | 6.48 |
| | Total | Low-Neutral | 18 | 11.39 | 6.29 |
| | | High | 37 | 13.62 | 6.19 |
| | | Total | 55 | 12.89 | 6.26 |

Table H8

*For the successful recovery scenario, descriptive statistics of within the CA condition 2 x 2 MANCOVA injury severity by level of personal distress*

| *CDSII Scale* | *Injury Severity* | *Level of Personal Distress* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low | 10 | 21.30 | 4.74 |
| | | Neutral | 4 | 20.50 | 4.04 |
| | | Total | 14 | 21.07 | 4.41 |
| | mod./major injury | Low | 35 | 21.00 | 5.92 |
| | | Neutral | 7 | 21.57 | 4.31 |
| | | Total | 42 | 21.10 | 5.64 |
| | Total | Low | 45 | 21.07 | 5.63 |
| | | Neutral | 11 | 21.18 | 4.05 |
| | | Total | 56 | 21.09 | 5.32 |
| Stability | | | | | |
| | none/minor injury | Low | 10 | 15.90 | 4.48 |
| | | Neutral | 4 | 17.50 | 4.20 |
| | | Total | 14 | 16.36 | 4.31 |
| | mod./major injury | Low | 35 | 17.51 | 5.76 |
| | | Neutral | 7 | 15.00 | 3.87 |
| | | Total | 42 | 17.10 | 5.53 |
| | Total | Low | 45 | 17.16 | 5.49 |
| | | Neutral | 11 | 15.91 | 3.99 |
| | | Total | 56 | 16.91 | 5.22 |
| Personal Control | | | | | |
| | none/minor injury | Low | 10 | 20.70 | 6.58 |
| | | Neutral | 4 | 21.00 | 4.08 |
| | | Total | 14 | 20.79 | 5.82 |
| | mod./major injury | Low | 35 | 22.54 | 5.18 |
| | | Neutral | 7 | 21.29 | 4.03 |
| | | Total | 42 | 22.33 | 4.98 |
| | Total | Low | 45 | 22.13 | 5.49 |
| | | Neutral | 11 | 21.18 | 3.84 |
| | | Total | 56 | 21.95 | 5.19 |
| External Control | | | | | |
| | none/minor injury | Low | 10 | 11.20 | 6.12 |
| | | Neutral | 4 | 15.50 | 3.87 |
| | | Total | 14 | 12.43 | 5.79 |
| | mod./major injury | Low | 35 | 13.26 | 6.80 |
| | | Neutral | 7 | 13.29 | 4.86 |
| | | Total | 42 | 13.26 | 6.46 |
| | Total | Low | 45 | 12.80 | 6.64 |
| | | Neutral | 11 | 14.09 | 4.46 |
| | | Total | 56 | 13.05 | 6.26 |

Table H9

*For the Recovery Failure Scenario, Descriptive Statistics of Within the CC Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Fantasy by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Fantasy* | *Coaches' Sex* | *N* | *M* | *SD* |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low | female | 2 | 10.00 | 7.07 |
| | | | male | 1 | 3.00 | . |
| | | | Total | 3 | 7.67 | 6.43 |
| | | High | female | 5 | 13.00 | 3.08 |
| | | | male | 1 | 12.00 | . |
| | | | Total | 6 | 12.83 | 2.79 |
| | | Total | female | 7 | 12.14 | 4.10 |
| | | | male | 2 | 7.50 | 6.36 |
| | | | Total | 9 | 11.11 | 4.68 |
| | mod./major | Low | female | 7 | 6.71 | 4.42 |
| | | | male | 6 | 10.33 | 5.89 |
| | | | Total | 13 | 8.38 | 5.27 |
| | | High | female | 10 | 11.00 | 3.59 |
| | | | male | 3 | 6.33 | 2.52 |
| | | | Total | 13 | 9.92 | 3.86 |
| | | Total | female | 17 | 9.24 | 4.40 |
| | | | male | 9 | 9.00 | 5.22 |
| | | | Total | 26 | 9.15 | 4.59 |
| | Total | Low | female | 9 | 7.44 | 4.80 |
| | | | male | 7 | 9.29 | 6.05 |
| | | | Total | 16 | 8.25 | 5.27 |
| | | High | female | 15 | 11.67 | 3.46 |
| | | | male | 4 | 7.75 | 3.50 |
| | | | Total | 19 | 10.84 | 3.75 |
| | | Total | female | 24 | 10.08 | 4.43 |
| | | | male | 11 | 8.73 | 5.12 |
| | | | Total | 35 | 9.66 | 4.63 |
| Stability | none/minor | Low | female | 2 | 8.00 | 7.07 |
| | | | male | 1 | 7.00 | . |
| | | | Total | 3 | 7.67 | 5.03 |
| | | High | female | 5 | 9.80 | 2.77 |
| | | | male | 1 | 10.00 | . |
| | | | Total | 6 | 9.83 | 2.48 |
| | | Total | female | 7 | 9.29 | 3.77 |
| | | | male | 2 | 8.50 | 2.12 |
| | | | Total | 9 | 9.11 | 3.37 |
| | mod./major | Low | female | 7 | 8.86 | 4.95 |
| | | | male | 6 | 11.00 | 7.04 |
| | | | Total | 13 | 9.85 | 5.84 |
| | | High | female | 10 | 10.00 | 4.19 |
| | | | male | 3 | 9.67 | 5.51 |
| | | | Total | 13 | 9.92 | 4.27 |
| | | Total | female | 17 | 9.53 | 4.40 |
| | | | male | 9 | 10.56 | 6.25 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Total | 26 | 9.88 | 5.01 |
| | Total | Low | female | 9 | 8.67 | 4.97 |
| | | | male | 7 | 10.43 | 6.60 |
| | | | Total | 16 | 9.44 | 5.61 |
| | | High | female | 15 | 9.93 | 3.67 |
| | | | male | 4 | 9.75 | 4.50 |
| | | | Total | 19 | 9.89 | 3.73 |
| | | Total | female | 24 | 9.46 | 4.15 |
| | | | male | 11 | 10.18 | 5.69 |
| | | | Total | 35 | 9.69 | 4.61 |
| Personal Control | none/minor | Low | female | 2 | 11.00 | 11.31 |
| | | | male | 1 | 16.00 | . |
| | | | Total | 3 | 12.67 | 8.50 |
| | | High | female | 5 | 13.40 | 3.97 |
| | | | male | 1 | 17.00 | . |
| | | | Total | 6 | 14.00 | 3.85 |
| | | Total | female | 7 | 12.71 | 5.77 |
| | | | male | 2 | 16.50 | 0.71 |
| | | | Total | 9 | 13.56 | 5.27 |
| | mod./major | Low | female | 7 | 12.43 | 6.88 |
| | | | male | 6 | 13.33 | 5.92 |
| | | | Total | 13 | 12.85 | 6.20 |
| | | High | female | 10 | 14.00 | 3.89 |
| | | | male | 3 | 9.33 | 8.39 |
| | | | Total | 13 | 12.92 | 5.22 |
| | | Total | female | 17 | 13.35 | 5.18 |
| | | | male | 9 | 12.00 | 6.60 |
| | | | Total | 26 | 12.88 | 5.62 |
| | Total | Low | female | 9 | 12.11 | 7.20 |
| | | | male | 7 | 13.71 | 5.50 |
| | | | Total | 16 | 12.81 | 6.36 |
| | | High | female | 15 | 13.80 | 3.78 |
| | | | male | 4 | 11.25 | 7.85 |
| | | | Total | 19 | 13.26 | 4.75 |
| | | Total | female | 24 | 13.17 | 5.24 |
| | | | male | 11 | 12.82 | 6.18 |
| | | | Total | 35 | 13.06 | 5.46 |
| External Control | none/minor | Low | female | 2 | 11.00 | 5.66 |
| | | | male | 1 | 25.00 | . |
| | | | Total | 3 | 15.67 | 9.02 |
| | | High | female | 5 | 18.00 | 6.44 |
| | | | male | 1 | 12.00 | . |
| | | | Total | 6 | 17.00 | 6.26 |
| | | Total | female | 7 | 16.00 | 6.68 |
| | | | male | 2 | 18.50 | 9.19 |
| | | | Total | 9 | 16.56 | 6.73 |
| | mod./major | Low | female | 7 | 14.71 | 6.42 |
| | | | male | 6 | 20.83 | 2.79 |
| | | | Total | 13 | 17.54 | 5.83 |
| | | High | female | 10 | 15.00 | 6.38 |

| | | | | | |
|---|---|---|---|---|---|
| | | male | 3 | 19.33 | 10.79 |
| | | Total | 13 | 16.00 | 7.31 |
| | Total | female | 17 | 14.88 | 6.19 |
| | | male | 9 | 20.33 | 5.87 |
| | | Total | 26 | 16.77 | 6.53 |
| Total | Low | female | 9 | 13.89 | 6.13 |
| | | male | 7 | 21.43 | 2.99 |
| | | Total | 16 | 17.19 | 6.21 |
| | High | female | 15 | 16.00 | 6.34 |
| | | male | 4 | 17.50 | 9.54 |
| | | Total | 19 | 16.32 | 6.84 |
| | Total | female | 24 | 15.21 | 6.21 |
| | | male | 11 | 20.00 | 6.05 |
| | | Total | 35 | 16.71 | 6.48 |

Table H10

*For the Recovery Failure Scenario, Descriptive Statistics of Within the CC Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Empathic Concern by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Empathic Concern* | *Coaches' Sex* | N | M | SD |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low-Neutral | female | 3 | 12.00 | 6.08 |
| | | | male | 1 | 15.00 | . |
| | | | Total | 4 | 12.75 | 5.19 |
| | | High | female | 7 | 14.14 | 4.71 |
| | | | male | 2 | 7.50 | 6.36 |
| | | | Total | 9 | 12.67 | 5.50 |
| | | Total | female | 10 | 13.50 | 4.90 |
| | | | male | 3 | 10.00 | 6.24 |
| | | | Total | 13 | 12.69 | 5.19 |
| | mod./major | Low-Neutral | female | 2 | 7.00 | 5.66 |
| | | | male | 4 | 9.00 | 1.41 |
| | | | Total | 6 | 8.33 | 2.94 |
| | | High | female | 23 | 9.87 | 5.34 |
| | | | male | 11 | 9.27 | 5.69 |
| | | | Total | 34 | 9.68 | 5.38 |
| | | Total | female | 25 | 9.64 | 5.30 |
| | | | male | 15 | 9.20 | 4.86 |
| | | | Total | 40 | 9.48 | 5.08 |
| | Total | Low-Neutral | female | 5 | 10.00 | 5.83 |
| | | | male | 5 | 10.20 | 2.95 |
| | | | Total | 10 | 10.10 | 4.36 |
| | | High | female | 30 | 10.87 | 5.44 |
| | | | male | 13 | 9.00 | 5.55 |
| | | | Total | 43 | 10.30 | 5.48 |
| | | Total | female | 35 | 10.74 | 5.41 |
| | | | male | 18 | 9.33 | 4.91 |
| | | | Total | 53 | 10.26 | 5.24 |
| Stability | none/minor | Low-Neutral | female | 3 | 7.67 | 5.03 |
| | | | male | 1 | 11.00 | . |
| | | | Total | 4 | 8.50 | 4.43 |
| | | High | female | 7 | 10.43 | 2.76 |
| | | | male | 2 | 8.50 | 2.12 |
| | | | Total | 9 | 10.00 | 2.65 |
| | | Total | female | 10 | 9.60 | 3.53 |
| | | | male | 3 | 9.33 | 2.08 |
| | | | Total | 13 | 9.54 | 3.18 |
| | mod./major | Low-Neutral | female | 2 | 6.00 | 4.24 |
| | | | male | 4 | 8.25 | 2.87 |
| | | | Total | 6 | 7.50 | 3.15 |
| | | High | female | 23 | 9.26 | 4.04 |
| | | | male | 11 | 11.73 | 5.66 |
| | | | Total | 34 | 10.06 | 4.68 |
| | | Total | female | 25 | 9.00 | 4.06 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | male | 15 | 10.80 | 5.21 |
| | | | Total | 40 | 9.68 | 4.55 |
| | Total | Low-Neutral | female | 5 | 7.00 | 4.24 |
| | | | male | 5 | 8.80 | 2.77 |
| | | | Total | 10 | 7.90 | 3.51 |
| | | High | female | 30 | 9.53 | 3.77 |
| | | | male | 13 | 11.23 | 5.34 |
| | | | Total | 43 | 10.05 | 4.31 |
| | | Total | female | 35 | 9.17 | 3.88 |
| | | | male | 18 | 10.56 | 4.82 |
| | | | Total | 53 | 9.64 | 4.22 |
| Personal Control | none/minor | Low-Neutral | female | 3 | 11.00 | 8.00 |
| | | | male | 1 | 14.00 | . |
| | | | Total | 4 | 11.75 | 6.70 |
| | | High | female | 7 | 16.71 | 6.55 |
| | | | male | 2 | 16.50 | 0.71 |
| | | | Total | 9 | 16.67 | 5.68 |
| | | Total | female | 10 | 15.00 | 7.10 |
| | | | male | 3 | 15.67 | 1.53 |
| | | | Total | 13 | 15.15 | 6.19 |
| | mod./major | Low-Neutral | female | 2 | 10.00 | 1.41 |
| | | | male | 4 | 12.25 | 5.38 |
| | | | Total | 6 | 11.50 | 4.37 |
| | | High | female | 23 | 13.17 | 5.60 |
| | | | male | 11 | 13.27 | 7.10 |
| | | | Total | 34 | 13.21 | 6.01 |
| | | Total | female | 25 | 12.92 | 5.44 |
| | | | male | 15 | 13.00 | 6.51 |
| | | | Total | 40 | 12.95 | 5.78 |
| | Total | Low-Neutral | female | 5 | 10.60 | 5.73 |
| | | | male | 5 | 12.60 | 4.72 |
| | | | Total | 10 | 11.60 | 5.06 |
| | | High | female | 30 | 14.00 | 5.91 |
| | | | male | 13 | 13.77 | 6.60 |
| | | | Total | 43 | 13.93 | 6.05 |
| | | Total | female | 35 | 13.51 | 5.93 |
| | | | male | 18 | 13.44 | 6.02 |
| | | | Total | 53 | 13.49 | 5.90 |
| External Control | none/minor | Low-Neutral | female | 3 | 10.67 | 4.04 |
| | | | male | 1 | 13.00 | . |
| | | | Total | 4 | 11.25 | 3.50 |
| | | High | female | 7 | 18.00 | 5.54 |
| | | | male | 2 | 18.50 | 9.19 |
| | | | Total | 9 | 18.11 | 5.80 |
| | | Total | female | 10 | 15.80 | 6.05 |
| | | | male | 3 | 16.67 | 7.23 |
| | | | Total | 13 | 16.00 | 6.03 |
| | mod./major | Low-Neutral | female | 2 | 17.00 | 2.83 |
| | | | male | 4 | 19.00 | 8.83 |

| | | | | | |
|---|---|---|---|---|---|
| | | Total | 6 | 18.33 | 7.03 |
| | High | female | 23 | 15.87 | 5.90 |
| | | male | 11 | 19.18 | 5.58 |
| | | Total | 34 | 16.94 | 5.93 |
| | Total | female | 25 | 15.96 | 5.69 |
| | | male | 15 | 19.13 | 6.24 |
| | | Total | 40 | 17.15 | 6.03 |
| Total | Low-Neutral | female | 5 | 13.20 | 4.71 |
| | | male | 5 | 17.80 | 8.11 |
| | | Total | 10 | 15.50 | 6.70 |
| | High | female | 30 | 16.37 | 5.80 |
| | | male | 13 | 19.08 | 5.75 |
| | | Total | 43 | 17.19 | 5.85 |
| | Total | female | 35 | 15.91 | 5.71 |
| | | male | 18 | 18.72 | 6.26 |
| | | Total | 53 | 16.87 | 5.99 |

Table H11

*For the recovery failure scenario, descriptive statistics of within the CC condition 2 x 2 MANCOVA injury severity by level of perspective-taking*

| *CDSII Scale* | *Injury Severity* | *Level of Perspective-Taking* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low-Neutral | 4 | 11.25 | 4.35 |
| | | High | 9 | 13.33 | 5.63 |
| | | Total | 13 | 12.69 | 5.19 |
| | mod./major injury | Low-Neutral | 9 | 9.11 | 7.06 |
| | | High | 30 | 9.67 | 4.54 |
| | | Total | 39 | 9.54 | 5.13 |
| | Total | Low-Neutral | 13 | 9.77 | 6.25 |
| | | High | 39 | 10.51 | 4.99 |
| | | Total | 52 | 10.33 | 5.28 |
| Stability | | | | | |
| | none/minor injury | Low-Neutral | 4 | 9.25 | 4.35 |
| | | High | 9 | 9.67 | 2.83 |
| | | Total | 13 | 9.54 | 3.18 |
| | mod./major injury | Low-Neutral | 9 | 7.67 | 2.92 |
| | | High | 30 | 10.50 | 4.69 |
| | | Total | 39 | 9.85 | 4.48 |
| | Total | Low-Neutral | 13 | 8.15 | 3.31 |
| | | High | 39 | 10.31 | 4.31 |
| | | Total | 52 | 9.77 | 4.16 |
| Personal Control | | | | | |
| | none/minor injury | Low-Neutral | 4 | 12.25 | 7.27 |
| | | High | 9 | 16.44 | 5.61 |
| | | Total | 13 | 15.15 | 6.19 |
| | mod./major injury | Low-Neutral | 9 | 14.11 | 5.73 |
| | | High | 30 | 12.47 | 5.89 |
| | | Total | 39 | 12.85 | 5.82 |
| | Total | Low-Neutral | 13 | 13.54 | 5.99 |
| | | High | 39 | 13.38 | 6.00 |
| | | Total | 52 | 13.42 | 5.94 |
| External Control | | | | | |
| | none/minor injury | Low-Neutral | 4 | 11.50 | 3.32 |
| | | High | 9 | 18.00 | 5.98 |
| | | Total | 13 | 16.00 | 6.03 |
| | mod./major injury | Low-Neutral | 9 | 19.67 | 5.39 |
| | | High | 30 | 16.73 | 5.93 |
| | | Total | 39 | 17.41 | 5.87 |
| | Total | Low-Neutral | 13 | 17.15 | 6.12 |
| | | High | 39 | 17.03 | 5.89 |
| | | Total | 52 | 17.06 | 5.89 |

Table H12

*For the recovery failure scenario, descriptive statistics of within the CC condition 2 x 2 MANCOVA injury severity by level of personal distress*

| CDSII Scale | Injury Severity | Level of Personal Distress | N | M | SD |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low | 8 | 14.38 | 5.01 |
| | | Neutral | 5 | 10.00 | 4.69 |
| | | Total | 13 | 12.69 | 5.19 |
| | mod./major injury | Low | 29 | 9.48 | 5.30 |
| | | Neutral | 11 | 9.45 | 4.68 |
| | | Total | 40 | 9.48 | 5.08 |
| | Total | Low | 37 | 10.54 | 5.56 |
| | | Neutral | 16 | 9.63 | 4.53 |
| | | Total | 53 | 10.26 | 5.24 |
| Stability | | | | | |
| | none/minor injury | Low | 8 | 9.63 | 3.93 |
| | | Neutral | 5 | 9.40 | 1.82 |
| | | Total | 13 | 9.54 | 3.18 |
| | mod./major injury | Low | 29 | 9.62 | 4.74 |
| | | Neutral | 11 | 9.82 | 4.21 |
| | | Total | 40 | 9.68 | 4.55 |
| | Total | Low | 37 | 9.62 | 4.52 |
| | | Neutral | 16 | 9.69 | 3.57 |
| | | Total | 53 | 9.64 | 4.22 |
| Personal Control | | | | | |
| | none/minor injury | Low | 8 | 14.88 | 7.08 |
| | | Neutral | 5 | 15.60 | 5.18 |
| | | Total | 13 | 15.15 | 6.19 |
| | mod./major injury | Low | 29 | 13.48 | 5.83 |
| | | Neutral | 11 | 11.55 | 5.68 |
| | | Total | 40 | 12.95 | 5.78 |
| | Total | Low | 37 | 13.78 | 6.04 |
| | | Neutral | 16 | 12.81 | 5.69 |
| | | Total | 53 | 13.49 | 5.90 |
| External Control | | | | | |
| | none/minor injury | Low | 8 | 14.63 | 5.53 |
| | | Neutral | 5 | 18.20 | 6.76 |
| | | Total | 13 | 16.00 | 6.03 |
| | mod./major injury | Low | 29 | 17.45 | 5.97 |
| | | Neutral | 11 | 16.36 | 6.39 |
| | | Total | 40 | 17.15 | 6.03 |
| | Total | Low | 37 | 16.84 | 5.92 |
| | | Neutral | 16 | 16.94 | 6.34 |
| | | Total | 53 | 16.87 | 5.99 |

Table H13

*For the Recovery Failure Scenario, Descriptive Statistics of Within the CA Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Fantasy by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Fantasy* | *Coaches' Sex* | *N* | *M* | *SD* |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low | female | 2 | 25.50 | 2.12 |
| | | | male | 2 | 25.50 | 2.12 |
| | | | Total | 5 | 23.20 | 2.77 |
| | | High | female | 1 | 20.00 | . |
| | | | male | 6 | 22.67 | 2.80 |
| | | | Total | 7 | 23.86 | 2.67 |
| | | Total | female | 1 | 20.00 | . |
| | | | male | 8 | 23.38 | 2.83 |
| | | | Total | 3 | 22.67 | 5.86 |
| | mod./major | Low | female | 10 | 17.80 | 6.73 |
| | | | male | 13 | 18.92 | 6.65 |
| | | | Total | 11 | 19.73 | 4.94 |
| | | High | female | 4 | 12.50 | 8.66 |
| | | | male | 15 | 17.80 | 6.67 |
| | | | Total | 14 | 20.36 | 5.06 |
| | | Total | female | 14 | 16.29 | 7.41 |
| | | | male | 28 | 18.32 | 6.56 |
| | | | Total | 5 | 23.80 | 4.55 |
| | Total | Low | female | 10 | 17.80 | 6.73 |
| | | | male | 15 | 19.80 | 6.60 |
| | | | Total | 16 | 20.81 | 4.59 |
| | | High | female | 5 | 14.00 | 8.22 |
| | | | male | 21 | 19.19 | 6.18 |
| | | | Total | 21 | 21.52 | 4.65 |
| | | Total | female | 15 | 16.53 | 7.20 |
| | | | male | 36 | 19.44 | 6.27 |
| | | | Total | 2 | 10.50 | 7.78 |
| Stability | none/minor | Low | female | 2 | 10.50 | 7.78 |
| | | | male | 5 | 10.80 | 3.49 |
| | | | Total | 1 | 12.00 | . |
| | | High | female | 6 | 11.00 | 3.16 |
| | | | male | 7 | 10.71 | 4.27 |
| | | | Total | 1 | 12.00 | . |
| | | Total | female | 8 | 10.88 | 3.98 |
| | | | male | 3 | 11.33 | 0.58 |
| | | | Total | 10 | 12.30 | 4.64 |
| | mod./major | Low | female | 13 | 12.08 | 4.05 |
| | | | male | 11 | 10.36 | 3.11 |
| | | | Total | 4 | 10.25 | 6.13 |
| | | High | female | 15 | 10.33 | 3.87 |
| | | | male | 14 | 10.57 | 2.77 |
| | | | Total | 14 | 11.71 | 4.95 |
| | | Total | female | 28 | 11.14 | 3.98 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | male | 5 | 11.00 | 3.94 |
| | | | Total | 10 | 12.30 | 4.64 |
| | Total | Low | female | 15 | 11.87 | 4.32 |
| | | | male | 16 | 10.50 | 3.12 |
| | | | Total | 5 | 10.60 | 5.37 |
| | | High | female | 21 | 10.52 | 3.61 |
| | | | male | 21 | 10.62 | 3.23 |
| | | | Total | 15 | 11.73 | 4.77 |
| | | Total | female | 36 | 11.08 | 3.92 |
| | | | male | 2 | 25.00 | 2.83 |
| | | | Total | 2 | 25.00 | 2.83 |
| Personal Control | none/minor | Low | female | 5 | 20.80 | 5.02 |
| | | | male | 1 | 16.00 | . |
| | | | Total | 6 | 20.00 | 4.90 |
| | | High | female | 7 | 22.00 | 4.73 |
| | | | male | 1 | 16.00 | . |
| | | | Total | 8 | 21.25 | 4.86 |
| | | Total | female | 3 | 22.00 | 6.24 |
| | | | male | 10 | 20.00 | 6.99 |
| | | | Total | 13 | 20.46 | 6.63 |
| | mod./major | Low | female | 11 | 20.55 | 5.68 |
| | | | male | 4 | 19.75 | 5.74 |
| | | | Total | 15 | 20.33 | 5.50 |
| | | High | female | 14 | 20.86 | 5.59 |
| | | | male | 14 | 19.93 | 6.44 |
| | | | Total | 28 | 20.39 | 5.93 |
| | | Total | female | 5 | 23.20 | 4.92 |
| | | | male | 10 | 20.00 | 6.99 |
| | | | Total | 15 | 21.07 | 6.39 |
| | Total | Low | female | 16 | 20.63 | 5.32 |
| | | | male | 5 | 19.00 | 5.24 |
| | | | Total | 21 | 20.24 | 5.21 |
| | | High | female | 21 | 21.24 | 5.22 |
| | | | male | 15 | 19.67 | 6.29 |
| | | | Total | 36 | 20.58 | 5.66 |
| | | Total | female | 2 | 12.00 | 12.73 |
| | | | male | 2 | 12.00 | 12.73 |
| | | | Total | 5 | 10.80 | 3.42 |
| External Control | none/minor | Low | female | 1 | 3.00 | . |
| | | | male | 6 | 9.50 | 4.42 |
| | | | Total | 7 | 11.14 | 5.93 |
| | | High | female | 1 | 3.00 | . |
| | | | male | 8 | 10.13 | 6.20 |
| | | | Total | 3 | 12.67 | 2.08 |
| | | Total | female | 10 | 10.70 | 5.72 |
| | | | male | 13 | 11.15 | 5.10 |
| | | | Total | 11 | 7.18 | 4.31 |
| | mod./major | Low | female | 4 | 14.50 | 6.35 |
| | | | male | 15 | 9.13 | 5.76 |
| | | | Total | 14 | 8.36 | 4.52 |

| | | | | | |
|---|---|---|---|---|---|
| | High | female | 14 | 11.79 | 5.92 |
| | | male | 28 | 10.07 | 5.46 |
| | | Total | 5 | 12.40 | 6.54 |
| | Total | female | 10 | 10.70 | 5.72 |
| | | male | 15 | 11.27 | 5.82 |
| | | Total | 16 | 8.31 | 4.30 |
| Total | Low | female | 5 | 12.20 | 7.53 |
| | | male | 21 | 9.24 | 5.30 |
| | | Total | 21 | 9.29 | 5.06 |
| | High | female | 15 | 11.20 | 6.14 |
| | | male | 36 | 10.08 | 5.54 |
| | | Total | | | |
| | Total | female | | | |
| | | male | | | |
| | | Total | | | |

Table H14

*For the Recovery Failure Scenario, Descriptive Statistics of Within the CA Condition 2 x 2 x 2 MANCOVA Analysis of Injury Severity by Level of Empathic Concern by Sex*

| *CDSII Scale* | *Injury Severity* | *Level of Empathic Concern* | *Coaches' Sex* | *N* | *M* | *SD* |
|---|---|---|---|---|---|---|
| Locus of Cause | none/minor | Low-Neutral | female | 1 | 19.00 | . |
| | | | male | 1 | 11.00 | . |
| | | | Total | 2 | 15.00 | 5.66 |
| | | High | female | 8 | 23.50 | 2.67 |
| | | | male | 4 | 17.50 | 1.73 |
| | | | Total | 12 | 21.50 | 3.75 |
| | | Total | female | 9 | 23.00 | 2.92 |
| | | | male | 5 | 16.20 | 3.27 |
| | | | Total | 14 | 20.57 | 4.47 |
| | mod./major | Low-Neutral | female | 1 | 7.00 | . |
| | | | male | 7 | 17.00 | 6.63 |
| | | | Total | 8 | 15.75 | 7.09 |
| | | High | female | 21 | 18.81 | 6.05 |
| | | | male | 12 | 16.83 | 7.35 |
| | | | Total | 33 | 18.09 | 6.51 |
| | | Total | female | 22 | 18.27 | 6.42 |
| | | | male | 19 | 16.89 | 6.90 |
| | | | Total | 41 | 17.63 | 6.60 |
| | Total | Low-Neutral | female | 2 | 13.00 | 8.49 |
| | | | male | 8 | 16.25 | 6.50 |
| | | | Total | 10 | 15.60 | 6.54 |
| | | High | female | 29 | 20.10 | 5.70 |
| | | | male | 16 | 17.00 | 6.35 |
| | | | Total | 45 | 19.00 | 6.06 |
| | | Total | female | 31 | 19.65 | 5.99 |
| | | | male | 24 | 16.75 | 6.26 |
| | | | Total | 55 | 18.38 | 6.23 |
| Stability | none/minor | Low-Neutral | female | 1 | 9.00 | . |
| | | | male | 1 | 11.00 | . |
| | | | Total | 2 | 10.00 | 1.41 |
| | | High | female | 8 | 11.00 | 4.04 |
| | | | male | 4 | 13.50 | 1.73 |
| | | | Total | 12 | 11.83 | 3.56 |
| | | Total | female | 9 | 10.78 | 3.83 |
| | | | male | 5 | 13.00 | 1.87 |
| | | | Total | 14 | 11.57 | 3.37 |
| | mod./major | Low-Neutral | female | 1 | 19.00 | . |
| | | | male | 7 | 12.14 | 3.63 |
| | | | Total | 8 | 13.00 | 4.14 |
| | | High | female | 21 | 10.43 | 2.84 |
| | | | male | 12 | 11.08 | 5.57 |
| | | | Total | 33 | 10.67 | 3.97 |
| | | Total | female | 22 | 10.82 | 3.32 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | male | 19 | 11.47 | 4.86 |
| | | | Total | 41 | 11.12 | 4.06 |
| | Total | Low-Neutral | female | 2 | 14.00 | 7.07 |
| | | | male | 8 | 12.00 | 3.38 |
| | | | Total | 10 | 12.40 | 3.89 |
| | | High | female | 29 | 10.59 | 3.15 |
| | | | male | 16 | 11.69 | 4.95 |
| | | | Total | 45 | 10.98 | 3.86 |
| | | Total | female | 31 | 10.81 | 3.41 |
| | | | male | 24 | 11.79 | 4.41 |
| | | | Total | 55 | 11.24 | 3.87 |
| Personal Control | none/minor | Low-Neutral | female | 1 | 16.00 | . |
| | | | male | 1 | 16.00 | . |
| | | | Total | 2 | 16.00 | 0.00 |
| | | High | female | 8 | 21.88 | 4.39 |
| | | | male | 4 | 16.25 | 4.92 |
| | | | Total | 12 | 20.00 | 5.15 |
| | | Total | female | 9 | 21.22 | 4.55 |
| | | | male | 5 | 16.20 | 4.27 |
| | | | Total | 14 | 19.43 | 4.96 |
| | mod./major | Low-Neutral | female | 1 | 3.00 | . |
| | | | male | 7 | 19.00 | 7.77 |
| | | | Total | 8 | 17.00 | 9.15 |
| | | High | female | 21 | 19.48 | 6.49 |
| | | | male | 12 | 20.17 | 6.03 |
| | | | Total | 33 | 19.73 | 6.24 |
| | | Total | female | 22 | 18.73 | 7.25 |
| | | | male | 19 | 19.74 | 6.53 |
| | | | Total | 41 | 19.20 | 6.86 |
| | Total | Low-Neutral | female | 2 | 9.50 | 9.19 |
| | | | male | 8 | 18.63 | 7.27 |
| | | | Total | 10 | 16.80 | 8.08 |
| | | High | female | 29 | 20.14 | 6.01 |
| | | | male | 16 | 19.19 | 5.88 |
| | | | Total | 45 | 19.80 | 5.91 |
| | | Total | female | 31 | 19.45 | 6.60 |
| | | | male | 24 | 19.00 | 6.22 |
| | | | Total | 55 | 19.25 | 6.38 |
| External Control | none/minor | Low-Neutral | female | 1 | 9.00 | . |
| | | | male | 1 | 6.00 | . |
| | | | Total | 2 | 7.50 | 2.12 |
| | | High | female | 8 | 10.75 | 5.60 |
| | | | male | 4 | 6.25 | 5.25 |
| | | | Total | 12 | 9.25 | 5.69 |
| | | Total | female | 9 | 10.56 | 5.27 |
| | | | male | 5 | 6.20 | 4.55 |
| | | | Total | 14 | 9.00 | 5.31 |
| | mod./major | Low-Neutral | female | 1 | 3.00 | . |
| | | | male | 7 | 11.71 | 5.71 |

| | | | | | |
|---|---|---|---|---|---|
| | | Total | 8 | 10.63 | 6.12 |
| | High | female | 21 | 8.48 | 4.33 |
| | | male | 12 | 11.67 | 5.58 |
| | | Total | 33 | 9.64 | 4.99 |
| | Total | female | 22 | 8.23 | 4.39 |
| | | male | 19 | 11.68 | 5.47 |
| | | Total | 41 | 9.83 | 5.16 |
| Total | Low-Neutral | female | 2 | 6.00 | 4.24 |
| | | male | 8 | 11.00 | 5.66 |
| | | Total | 10 | 10.00 | 5.60 |
| | High | female | 29 | 9.10 | 4.72 |
| | | male | 16 | 10.31 | 5.85 |
| | | Total | 45 | 9.53 | 5.12 |
| | Total | female | 31 | 8.90 | 4.69 |
| | | male | 24 | 10.54 | 5.67 |
| | | Total | 55 | 9.62 | 5.16 |

Table H15

*For the recovery failure scenario, descriptive statistics of within the CA condition 2 x 2 MANCOVA injury severity by level of perspective-taking*

| *CDSII Scale* | *Injury Severity* | *Level of Perspective-Taking* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low-Neutral | 6 | 22.00 | 3.69 |
| | | High | 7 | 19.86 | 5.21 |
| | | Total | 13 | 20.85 | 4.52 |
| | mod./major injury | Low-Neutral | 12 | 15.75 | 6.44 |
| | | High | 28 | 18.43 | 6.74 |
| | | Total | 40 | 17.63 | 6.69 |
| | Total | Low-Neutral | 18 | 17.83 | 6.33 |
| | | High | 35 | 18.71 | 6.42 |
| | | Total | 53 | 18.42 | 6.34 |
| Stability | | | | | |
| | none/minor injury | Low-Neutral | 6 | 11.17 | 4.22 |
| | | High | 7 | 11.43 | 2.76 |
| | | Total | 13 | 11.31 | 3.35 |
| | mod./major injury | Low-Neutral | 12 | 12.67 | 4.21 |
| | | High | 28 | 10.61 | 3.91 |
| | | Total | 40 | 11.23 | 4.06 |
| | Total | Low-Neutral | 18 | 12.17 | 4.15 |
| | | High | 35 | 10.77 | 3.69 |
| | | Total | 53 | 11.25 | 3.87 |
| Personal Control | | | | | |
| | none/minor injury | Low-Neutral | 6 | 20.50 | 5.13 |
| | | High | 7 | 18.14 | 5.21 |
| | | Total | 13 | 19.23 | 5.10 |
| | mod./major injury | Low-Neutral | 12 | 16.75 | 8.51 |
| | | High | 28 | 20.07 | 5.99 |
| | | Total | 40 | 19.08 | 6.90 |
| | Total | Low-Neutral | 18 | 18.00 | 7.61 |
| | | High | 35 | 19.69 | 5.82 |
| | | Total | 53 | 19.11 | 6.46 |
| External Control | | | | | |
| | none/minor injury | Low-Neutral | 6 | 11.83 | 5.91 |
| | | High | 7 | 7.43 | 3.87 |
| | | Total | 13 | 9.46 | 5.22 |
| | mod./major injury | Low-Neutral | 12 | 9.92 | 5.00 |
| | | High | 28 | 9.68 | 5.37 |
| | | Total | 40 | 9.75 | 5.20 |
| | Total | Low-Neutral | 18 | 10.56 | 5.23 |
| | | High | 35 | 9.23 | 5.13 |
| | | Total | 53 | 9.68 | 5.15 |

Table H16

*For the recovery failure scenario, descriptive statistics of within the CA condition 2 x 2 MANCOVA injury severity by level of personal distress*

| *CDSII Scale* | *Injury Severity* | *Level of Personal Distress* | *N* | *M* | *SD* |
|---|---|---|---|---|---|
| Locus of Cause | | | | | |
| | none/minor injury | Low | 10 | 20.40 | 5.21 |
| | | Neutral | 4 | 21.00 | 2.16 |
| | | Total | 14 | 20.57 | 4.47 |
| | mod./major injury | Low | 34 | 17.24 | 6.80 |
| | | Neutral | 6 | 18.50 | 5.21 |
| | | Total | 40 | 17.43 | 6.55 |
| | Total | Low | 44 | 17.95 | 6.56 |
| | | Neutral | 10 | 19.50 | 4.28 |
| | | Total | 54 | 18.24 | 6.19 |
| Stability | | | | | |
| | none/minor injury | Low | 10 | 11.30 | 3.62 |
| | | Neutral | 4 | 12.25 | 2.99 |
| | | Total | 14 | 11.57 | 3.37 |
| | mod./major injury | Low | 34 | 11.09 | 4.26 |
| | | Neutral | 6 | 11.50 | 3.45 |
| | | Total | 40 | 11.15 | 4.11 |
| | Total | Low | 44 | 11.14 | 4.08 |
| | | Neutral | 10 | 11.80 | 3.12 |
| | | Total | 54 | 11.26 | 3.91 |
| Personal Control | | | | | |
| | none/minor injury | Low | 10 | 19.90 | 5.51 |
| | | Neutral | 4 | 18.25 | 3.59 |
| | | Total | 14 | 19.43 | 4.96 |
| | mod./major injury | Low | 34 | 19.35 | 7.17 |
| | | Neutral | 6 | 18.17 | 5.91 |
| | | Total | 40 | 19.18 | 6.94 |
| | Total | Low | 44 | 19.48 | 6.77 |
| | | Neutral | 10 | 18.20 | 4.87 |
| | | Total | 54 | 19.24 | 6.44 |
| External Control | | | | | |
| | none/minor injury | Low | 10 | 6.90 | 3.84 |
| | | Neutral | 4 | 14.25 | 5.12 |
| | | Total | 14 | 9.00 | 5.31 |
| | mod./major injury | Low | 34 | 10.32 | 5.30 |
| | | Neutral | 6 | 8.17 | 3.66 |
| | | Total | 40 | 10.00 | 5.10 |
| | Total | Low | 44 | 9.55 | 5.17 |
| | | Neutral | 10 | 10.60 | 5.10 |
| | | Total | 54 | 9.74 | 5.13 |

# APPENDIX I

## Coaches' Statement of the Cause of the Recovery Scenarios' Outcome and Self-Description of Their Sport Injuries

| Subject # | erspective-taking Condition (observer or erspective-taking) | ecovery Success-Injury Severity (minor, oderate, or major) | ecovery Success-Rehab Behavior compliant or non-compliant) | S Description of Outcome for Recovery uccess Scenario (success or failure) | Recovery Success: Single Most Likely Cause of Recovery Outcome (written by Ss) | ecovery Failure-Injury Severity (minor, oderate, or major) | ecovery Failure-Rehab Behavior Compliant or Non-Compliant) | S Description of Outcome for Recovery ailure Scenario (success or failure) | Recovery Failure: Single Most Likely Cause of Recovery Outcome (written by Ss) | oach's Self-Description of Sport Injury everity (none, minor, moderate, or major) | Coach's Self-Description of Their Sport Injury | Coach's sport injury as career-ending? | oes coach (Ss) still experience pain from port injury? | Description of continued discomfort |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 301 | obs | maj | C | S | enough time to heal | mod | C | F | worried that they'd re-injure | maj | knee | yes | yes | Still, 8 years later, I cannot run or use my left knee for any extended amount of time |
| 302 | obs | mod | C | S | this athlete should be okay unless there is a lot of running with little follow up | maj | C | F | not enough healing time or athlete not doing the proper aide of ice & heat after exercises | maj | broken wrist | no | no | |
| 303 | obs | maj | C | S | compliance with doctor recommendations and rehabilitation | mod | NC | F | the athlete may not have stayed off his/her ankle or failed to properly rehab | mod | torn ligaments in right knee / still need surgery | no | yes | have a hard time playing soccer, basketball and other sports that require quick movements and changes in direction without pain |
| 304 | obs | maj | C | S | successfully worked with rehab team | mod | NC | F | not allowed to heal completely | mod | strained several muscles in neck and rotator cuff | no | no | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 305 | obs | maj | C | S | they worked hard in rehab | mod | C | F | they are scared of injuring it again, and will do anything to prevent it from happening again | maj | torn cartilage | no | no | |
| 306 | obs | maj | C | S | recovery period complete | mod | C | F | not fully recovering | mod | knee injury - jumpers knee, Osgood Sladers, bursitis | no | no | |
| 307 | obs | min | C | S | following directions | maj | NC | F | did not do the rehab | none | | | | |
| 308 | obs | maj | C | S | following rehabilitation procedures | maj | C | S | not complying with rehabilitation measures | mod | sprained ankles | no | no | |
| 309 | obs | mod | C | S | following the rehab exercises | mod | NC | F | although athlete recovery at different rates, many times athletes don't do everything they should during rehab. Also, 10 days is not enough time to recovery a 3rd degree sprain! | mod | torn meniscus in knee<br>two scopes on knee | no | yes | osteoarthritis in knees; I will have to eventually have surgery again, but I'm not competing on such a high level anymore |
| 310 | obs | maj | C | S | proper psychological support | mod | C | S | fear of reinjury | none | | . | . | |
| 311 | obs | min | C | S | Time for healing and following prescribed activity | mod | NC | F | Time. It takes more than 10 days to recover. | mod | Achilles tendonitis chondramylasia (knee pain) | no | yes | long distances (3 or more miles) cause pain and weak mobility |
| 312 | obs | mod | C | S | the injury was not as bad as originally thought | mod | NC | F | being scared to injure it again | maj | stress fracture in femoral neck | no | no | |
| 313 | obs | mod | C | S | rehab | maj | NC | F | not doing rehabilitation | maj | ankle fracture | no | no | |
| 314 | obs | maj | C | S | she complied with the rehab protocol | mod | C | F | did not rehab hard enough | min | broken wrist and severe sprained ankle | no | no | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 315 | obs | maj | C | S | competitiveness | maj | C | S | fear | min | knee hyperextension | no | yes | |
| 316 | obs | maj | C | S | athlete followed rehab instructions completely | mod | NC | F | not following rehabilitation instructions | mod | torn ligament in knee | no | yes | have had 2 knee surgeries - realignment of kneecap |
| 317 | obs | maj | C | S | the desire to be able to do it | mod | C | S | fear | mod | chipped a bone in ankle | no | yes | Due to the weakening of my ankle from recovery time, my ankle gets hurt easily |
| 318 | obs | mod | C | S | sticking to the physical therapy schedule | maj | NC | F | not believing that they needed to do the rehab exercises | min | shin splints | no | yes | I have repeated pain in this area anytime it has been a while since I have been active or whenever I don't warm up properly |
| 319 | obs | maj | C | S | following doctor's orders and PT | mod | C | S | personal fear | maj | head concussion | no | no | |
| 320 | obs | maj | C | S | rehab and recovery time | maj | NC | F | not enough recovery time | mod | strained Achilles; sprained ankle | no | no | |
| 321 | pt | maj | C | S | I followed the therapist's instructions with the rehab exercises b/c I wanted to get back quick | mod | NC | F | did not follow rehab exercises recommended by doctor | maj | torn ACL | no | yes | change of weather - knee pain |
| 322 | pt | maj | C | S | positive attitude towards rehab and successful healing | mod | NC | F | did not follow rehab regime | maj | broken ankle | no | no | |
| 323 | pt | mod | C | S | now warming up enough | maj | C | S | bad start | min | rotator cuff tendonitis | no | no | |
| 324 | pt | maj | C | S | following my rehab protocol | mod | C | F | came back too soon from injury | mod | ankle sprain | no | yes | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 325 | pt | mod | NC | S | rehab at the therapist office | mod | C | S | afraid of doing it again | mod | dislocated thumb | no | yes | I have dislocated my thumb at least 4 or 5 times throughout the last 10 years since I first did it in HS. All times have been sport related in basketball or volleyball |
| 326 | pt | mod | C | S | I love the sport and want to compete at the highest level | mod | C | S | Intolerable pain | mod | ACL injury | no | yes | I will need a new knee |
| 327 | pt | maj | C | S | desire to return to sport | maj | C | F | ankle is not healed | mod | meniscal tear | no | yes | arthritis |
| 328 | pt | mod | NC | S | my body's natural ability to bounce back | mod | NC | F | I didn't follow the exercises of the therapist | min | broken toe | no | no | |
| 329 | pt | min | C | S | working with the physical therapist | mod | NC | F | not properly completing rehabilitation exercises | none | | | | |
| 330 | pt | maj | C | S | a positive attitude and rehabilitation | mod | C | F | not giving myself enough time to recover | mod | back injury (muscular) | no | yes | |
| 331 | pt | mod | C | S | completing all rehab and dedicated | mod | NC | F | not allowing healing to finish | maj | severe knee injury; I'm having my 3rd surgery for it [in 4 months]; I was hurt when I was 16 | no | yes | I have arthritis and have already has 2 scope surgeries. They were not successful. I have a lot of difficulty in deep knee lunges and using stairs |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 332 | pt | mod | C | S | the PT was followed during the 4 month period | mod | NC | F | the PT exercises were not followed | mod | A line drive was hit to my knee. My knee swelled and bruised significantly. Although I couldn't run well, the next day I played in a triple-header tournament. | no | no | |
| 333 | pt | maj | C | S | following doctor's instructions | mod | C | F | I need more time and rehabilitation | min | sprained ankle | no | no | |
| 334 | pt | maj | C | S | proper recovery/rehab | mod | C | S | thinking it will happen again | maj | fractured left fibula sliding in gym, softball practice in college, with tennis shoes on | no | yes | I will never slide foot first again even if it is safe |
| 335 | pt | maj | C | S | followed through with rehab | mod | NC | F | that you did not do rehab and follow the protocol RICE | mod | 3 ankle sprains | no | no | |
| 336 | pt | mod | C | S | no pain | mod | C | F | it's not healed | maj | broken leg and arm | no | yes | |
| 337 | pt | mod | C | S | being confident that total rehabilitation has occurred | mod | C | S | pain and fear that the injury might turn into something worse | min | broken finger | no | no | |
| 338 | pt | maj | C | S | the injury is completely healed and I am too excited about returning that the pain doesn't phase me | mod | C | S | fear of re-injuring and embarrassment of not doing the greatest at the drills | mod | broken ankle | no | yes | my ankle is weak and I roll it easily, but I haven't had anything really bad since that |
| 339 | pt | maj | C | S | You gave your body the correct time and rehab to heal | mod | C | S | trying to get back to normal too soon | none | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 340 | pt | mod | C | S | I let the injury heal and had an excellent PT | mod | C | S | fear of reinjury | none | none due to the fact that girls sports were not available when I was in school | | | |
| 341 | pt | mod | C | S | a good doctor; good rehab/good physical therapist/good effort on my part | maj | C | F | just not ready to come back - need to be reexamed by doctor, more PT | maj | two knee operations - 1 in high school, 1 career ending (college junior) | yes | yes | sore joints - however as an athlete these are physical conditions that go with the experience |
| 342 | pt | mod | C | S | rehab | mod | C | F | not fully recovered | min | torn ligament in hand, sprained ankle | no | no | |
| 343 | pt | mod | C | S | rehab worked; hard work in preparation | mod | C | F | time | min | back, minor | no | yes | increased strengthening and flexibility training has reduced bad back changed swing mechanics to alleviate some problems from overuse |
| 344 | pt | maj | C | S | appropriate therapy plan | mod | C | S | normal recovery response | mod | plantar fasciitis with Achilles tendonitis | no | yes | caused knee and hip pain that is ongoing |
| 345 | pt | mod | C | S | consistent rehab | maj | C | S | not completely healed | maj | broken wrist | no | yes | limited range of motion |
| 346 | pt | maj | C | S | rehab | maj | C | S | severity of the injury | mod | ankle sprain; shoulder impingement minor tears in rotator cuff | no | yes | sore shoulder |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 347 | pt | mod | C | S | joint strength | maj | C | F | time | mod | damaged shoulder capsule (diving on ground for field hockey ball) - required surgery for cleaning and shrinkage | no | no | |
| 348 | pt | maj | C | S | good technique | mod | C | F | inadequate recovery time | mod | torn ligament in right ankle | no | no | |
| 349 | pt | maj | C | S | I would continue with rehab to strengthen the area injured | mod | C | | sometimes ankle sprains can take a while to heal | mod | high hamstring strain; knee injury | no | yes | |
| 350 | pt | mod | C | S | rehab | min | NC | F | not rehabing correctly | mod | broken hand (kept me out 8 weeks) broken fibula (out 4 weeks) | no | no | |
| 351 | pt | mod | C | S | following directions during rehab | mod | NC | F | must not have followed directions during rehab | mod | torn ankle ligaments; sprained ankle; ACL | yes | yes | arthritic knee |
| 352 | pt | maj | C | S | faith | mod | C | S | fear of reinjuring ankle | mod | ankle sprains | no | no | |
| 353 | pt | min | C | S | confidence that knee is stable, strong | mod | C | S | apprehension | maj | basketball - broken hand and fibula during a game | no | yes | lacking flexibility in ankle and range of motion |
| 354 | pt | maj | C | S | completing rehab at home and the therapist office | mod | C | S | The ankle needs more rest and rehab for another 7-19 days. Return, only doing 50% of drills or drills at a slower pace | mod | pulled/strained hamstring | no | no | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 355 | pt | maj | C | S | I gave it enough time to heal and did all of the rehab | mod | C | S | I am afraid I will hurt it again so I favor the injured ankle | maj | I tore my rotator cuff | no | yes | I have a loose shoulder joint. My shoulder falls out of socket and my whole arm swells. |
| 356 | pt | min | C | S | did the regimen prescribed | maj | C | S | it hurts | maj | dislocated shoulder | no | no | |
| 357 | pt | min | C | S | confidence that I am healed | min | C | S | thoughts that I might reinjure it | maj | sprained ankle | no | no | |
| 358 | pt | maj | C | S | appropriate rehab and following it | maj | C | F | ruminating on how injury feel, can't block out feeling | maj | hip bursitis; basically hip and glute pain | no | yes | I still can't run (train, compete, or just jog) currently. I have fairly constant pain that I am almost always aware of. I also have experienced increased mood swings and trouble concentrating when I can't run. Sometimes I feel depressed. |
| 359 | pt | maj | C | S | proper rehab | maj | C | F | not feeling as if the ankle is 100% or normal | min | shoulder impingement | no | yes | stiffness, cracking |
| 360 | pt | min | C | S | time to heal | mod | C | S | my ankle is probably not 100% so I am not able to go as hard as normally do | none | | | | |
| 361 | pt | maj | C | S | hard work | mod | C | F | not enough time for recovery | maj | shoulder surgery | no | yes | back, should, and ankle discomfort |
| 362 | pt | maj | C | S | time | mod | C | S | less than 100% recovery in that time period | maj | herniated disk | yes | yes | rested and completed collegiate career; recurrence last year ended playing at recreational/competitive level |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 363 | obs | maj | C | S | disciplined rehab | maj | C | S | pain | maj | 3rd degree ankle sprain | no | no | |
| 364 | obs | maj | C | S | healing time and rehab | mod | C | F | continued injury to ankle | mod | badly sprained ankle | no | no | |
| 365 | obs | maj | C | S | rehab | maj | C | F | not enough rehab | mod | broken nose | no | no | |
| 366 | obs | maj | C | S | Full recovery. Correct and engaged rehabilitation | mod | C | S | unknowingly compensating for some soreness still remaining | maj | Achilles tendonitis - out 2 months | no | no | |
| 367 | obs | mod | C | S | confidence from the physical therapist | min | C | S | He might be afraid to get hurt again, but still want to compete so he practices through the pain and minimizes his pain to the trainer. | min | hamstring pull | no | no | |
| 368 | obs | mod | C | S | following a well planned rehab program | maj | C | F | wrong rehab or diagnosis of severity of injury | mod | strained ligament in my scrum | no | yes | I received chiropractic care approximately once per month |
| 369 | obs | maj | C | S | the injury was diagnosed correctly, she got a good surgery, she got a good therapist, she worked hard as the athlete | mod | C | F | the athlete was a freshman who has not been hurt in past - scared or fear reinjury hold them back | maj | throwing shoulder surgery | no | no | complete recovery, happy and good career as a player |
| 370 | obs | mod | C | S | successful surgery and excellent rehab regimen | mod | C | F | The injury is obviously more serious than anticipated. Anytime there is an ankle sprain, it takes time for the ligaments to heal so more time is needed or possibly a MRI. | mod | 3rd degree ankle sprain; herniated disk | no | yes | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 371 | obs | maj | C | S | worked hard to complete rehab and followed the protocol | mod | C | S | is apprehensive about it's full recovery - worried may reinjure it if goes "all out" | min | being hit in face by a line drive - lost a tooth and several stitches - was wearing a mouth guard at the time | no | no | |
| 372 | obs | maj | C | S | pain tolerance / healing | maj | C | S | severity of the injury / pain tolerance | mod | ankle injury | no | no | |
| 373 | obs | maj | C | S | the athlete's successful recovery is due to the completion of the necessary rehab | mod | NC | F | the athlete did not fully comply with the rehab protocol | mod | dislocated left arm; broken finger on left hand | no | yes | tendency for left arm to slip out of socket easily; arthritis in broken finger |
| 374 | obs | maj | C | S | the athlete complied with rehabilitation program | maj | NC | F | the athlete did not stay off the ankle as required | mod | slight tear of meniscus in left knee | no | yes | I was a collegiate hurdler at Miami. I still experience sore ankles, severe knee and back pain |
| 375 | obs | maj | C | S | proper rehab | mod | C | S | still needs more recovery | mod | lower back strain from platform diving | no | yes | occasional lower back pain |
| 376 | obs | mod | C | S | intense rehabilitation program | maj | NC | F | poor rehabilitation work | maj | broken shoulder | no | no | |
| 377 | obs | min | C | S | did rehab at home and therapist office | mod | NC | F | athlete wasn't as intense on rehab or would not still favor ankle | maj | broken process in spine (spondylonthesis) | no | yes | pinching pain in lower back; consistent muscles camped up left hip due to spine misaligned and because it slides due to cracked process; Lifetime consistent rehab is needed. I am not consistent. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 378 | obs | maj | C | S | completing 4 months of rehab | maj | C | F | not enough time for injury to heal | mod | torn Achilles tendon | no | no | |
| 379 | obs | maj | C | S | correct and extensive rehabilitation | maj | C | F | not enough time allowed for recovery | none | | | | |
| 380 | obs | maj | C | S | following rehab plan | mod | NC | F | not tough enough | min | tendonitis | no | no | |
| 381 | obs | mod | C | S | following her rehab program religiously | maj | C | F | not enough time to heal | mod | herniated disk in my lower back | no | no | |
| 382 | obs | maj | C | S | running | mod | C | F | the ankle is not completely healed - no one fault | maj | ACL injury | yes | yes | |
| 383 | obs | maj | C | S | athlete followed a good rehab program | mod | C | S | all injuries do not respond the same to rehab | mod | sprained ankle | no | yes | shoulder and neck pain from overuse of right arm - spiking and serving;aching knees from jumping and training;or maybe I'm just getting old!(These injuries have been bothering me since I played, so I'm pretty sure they're related) |
| 384 | obs | mod | C | S | overall pain tolerance | min | C | F | concern about reinjuring the ankle | maj | left rotator cuff partially torn and detached from bone; torn labrum; fractured clavicle | no | yes | pain, weakness, no full movement until surgery after career ended |
| 385 | obs | maj | C | S | the rehabilitation process was a success | maj | C | S | 10 days off an injury like this probably isn't long enough | maj | ACL reconstruction with removal of all knee meniscus | no | yes | constant aching and pain in knee joint, inflammation of occasional basis |
| 386 | obs | maj | C | S | proper rehabilitation | maj | . | . | | mod | stress fracture to the lunate | no | no | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 387 | obs | maj | NC | S | Followed rehab and conditioning work prescribed by the therapist. They have an additional 3 months to get ready for competition. | mod | C | F | most likely it was more severe than thought and required more rehab | maj | hip flexor and hamstrings | no | yes | inexperienced trainers with the track and field injuries (GA's). Need more outside expertise in track-related injuries. Need to use message and chiropractic people to balance the...[nothing more written] |
| 388 | obs | maj | C | S | the athlete did the required exercises and obtained the all-clear for participation from their therapist | mod | NC | F | the athlete probably didn't follow the instructions of the athletic trainer | mod | broken/sprained ankle | no | no | |
| 389 | obs | mod | C | S | the injured player had a good work ethic along with a desire to complete again | maj | NC | F | Poor work ethic. Did not complete the recommended rehab in the recommended manner. | maj | "Blown out knee" - torn ACL, MCL, shattered patella chipped tibia, sprained patella tendon | yes | yes | started getting arthritis at age 26, loss of mobility, loss of strength within the joint, almost daily pain and soreness |
| 390 | pt | maj | C | S | I did rehab for a long enough time so the injury healed thoroughly | maj | C | F | ankle was worse than I expected and I pushed myself too early too hard | min | pulled hamstring | no | no | |
| 391 | pt | mod | C | S | determination to perform again successfully | mod | NC | F | tried to get back too soon | mod | bone spurs in ankle, surgery, missed 8 weeks of basketball | no | no | |
| 392 | pt | maj | C | S | proper treatment | mod | C | F | fear of reinjury | mod | sprained ankle | no | no | |
| 393 | pt | mod | C | S | proper diagnosis and following the rehab directions | mod | C | F | the injury was more severe than first diagnosed | mod | knee | no | no | |
| 394 | obs | maj | C | S | completed rehab | mod | NC | F | did not complete rehab | mod | separated shoulder | no | no | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 395 | obs | maj | C | S | 4 months of rehab | maj | C | F | injury is very serious | mod | torn cartilage in right knee | no | no | |
| 396 | obs | maj | C | S | excellent care and direction by qualified therapist | maj | NC | F | not completing rehab successful or hard enough | min | cut requiring 10 stitches about knee | no | no | |
| 397 | obs | maj | C | S | proper amount of time and rehab | mod | C | F | incomplete healing process, not enough time off, more therapy needed | maj | knee - meniscus, cartilage | no | yes | running is difficult, knee locks up occasionally, pain and swelling |
| 398 | obs | mod | C | S | rehab establishing balanced muscle development, time to repair tissue | mod | NC | F | not following rehab process | min | broken finger | no | no | |
| 399 | obs | maj | C | S | psychological - being confident the injury is normal | maj | C | | pain | mod | knee injury | no | yes | pain, lack of mobility |
| 400 | obs | mod | C | S | followed directions, rehab and probably did everything he/she was told to do! | mod | C | F | could be insufficient rehab, poor diagnosis from doctor | maj | torn ligaments in finger, broken ankle | no | yes | My ankle injury occurred while serving in the military. It was severe enough to get a medical discharge! |
| 401 | pt | maj | C | S | following rehab instructions/exercises accurately and religiously | mod | C | F | Trying to prove it's not hurt so I favor the bad one. But it hasn't healed properly so it still hurts | mod | torn cartilage under my knee cap - had surgery and a screw put in after moving my patellar tendon to reduce my __ angle | no | yes | My knee has a hump so I can't kneel. Also, I feel the screw when the barometric pressure changes making my entire leg aches. The cartilage is fraying again as well, so it hurts to jump again (frayed parts dig into my fat pad). |
| 402 | pt | maj | C | S | | maj | C | F | pushed during rehab | mod | chipped bone and knee ligament - had scoped | no | no | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 403 | pt | maj | C | S | quality of surgery | mod | C | S | fear of re-injury | mod | bruised spine | no | yes | bulging discs, torn discs, stiffness in neck and back |
| 404 | pt | mod | C | S | did what the therapist said | maj | NC | F | not giving the injury enough time to heal - not following all of the rehab protocol | mod | shin splints severe ankle sprain | no | no | |
| 405 | pt | maj | C | S | putting the time in the rehab | mod | C | F | lack of recovery time | mod | separated shoulder | no | no | |
| 406 | pt | maj | C | S | I healed | mod | C | F | the ankle is not fully healed | min | ankle turn | no | yes | |
| 407 | pt | maj | C | S | sticking to the rehab schedule and listening to the doctor and therapist | maj | NC | F | didn't stay off the leg like the doctor advised | mod | several sprained ankles (some severe) | no | no | |
| 408 | pt | maj | C | S | recovered ligaments | mod | C | F | need more time/rehab to recover | mod | sprained ankle; stitches | no | no | |
| 409 | pt | mod | C | S | I had a moderate injury and followed the rehab protocol religiously. (Injury caused by not preparing enough for competition.) | maj | NC | F | It was a major injury and I was tentative about how I would feel if I went all-out | none | | | | |
| 410 | pt | mod | C | S | Because I adhered to the recommendations of the P.T. | maj | NC | F | I probably overused the ankle while I was supposed to be rehabing it | maj | broken arm a week before the national tournament | no | yes | I have difficulty throwing over-hand due to some rotator cuff damage when I was in college. It's painful, but not career-ending |
| 411 | pt | maj | C | S | trusting in rehab process that I went through after surgery | mod | C | | Recovery not finished. Needs more time to strengthen and gain range of motion | mod | tendonitis in knees | no | yes | knees flare up (swelling and pain) after 3 days of extreme exercise |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 412 | obs | mod | C | S | good rehab | maj | C | S | coming back too soon, fear | none | | | | |
| 413 | obs | maj | C | S | staying with the rehabilitation process and doing all required work | mod | C | F | being tentative after an injury and not wanting to hurt the ankle again | none | | | | |
| 414 | obs | maj | C | S | physical therapy; full recovery although I would have the athlete take it easy at first | maj | NC | F | not enough time off ankle or misdiagnosis | maj | degenerative disease of the cartilage in both knees | yes | yes | |

APPENDIX J

Raw Data

| | subject | situatio | cdsorder | iri1 | iri2 | iri3 | iri4 |
|---|---|---|---|---|---|---|---|
| 1 | 301 | CC | fail/succ | 4.00 | 4.00 | 3.00 | 2.00 |
| 2 | 302 | CC | fail/succ | 1.00 | 2.00 | 3.00 | 2.00 |
| 3 | 303 | CC | fail/succ | 3.00 | 3.00 | 3.00 | 3.00 |
| 4 | 304 | CC | fail/succ | 3.00 | 4.00 | 3.00 | 3.00 |
| 5 | 305 | CC | fail/succ | 2.00 | 2.00 | 2.00 | 1.00 |
| 6 | 306 | CC | fail/succ | .00 | 3.00 | 3.00 | 3.00 |
| 7 | 307 | CC | fail/succ | .00 | 4.00 | .00 | 3.00 |
| 8 | 308 | CC | fail/succ | .00 | 3.00 | 2.00 | .00 |
| 9 | 309 | CC | fail/succ | 4.00 | 4.00 | 1.00 | 3.00 |
| 10 | 310 | CC | fail/succ | 2.00 | 4.00 | 3.00 | 3.00 |
| 11 | 311 | CC | succ/fail | .00 | 4.00 | 1.00 | 4.00 |
| 12 | 312 | CC | succ/fail | 4.00 | 4.00 | 1.00 | 1.00 |
| 13 | 313 | CC | succ/fail | 1.00 | 3.00 | 4.00 | 2.00 |
| 14 | 314 | CC | succ/fail | 3.00 | 3.00 | .00 | 2.00 |
| 15 | 315 | CC | succ/fail | 2.00 | 3.00 | 2.00 | 2.00 |
| 16 | 316 | CC | succ/fail | 1.00 | 3.00 | 1.00 | 3.00 |
| 17 | 317 | CC | succ/fail | 4.00 | 4.00 | 1.00 | 2.00 |
| 18 | 318 | CC | succ/fail | 4.00 | 4.00 | 4.00 | 4.00 |
| 19 | 319 | CC | succ/fail | 2.00 | 4.00 | 2.00 | 3.00 |
| 20 | 320 | CC | succ/fail | 1.00 | 3.00 | 4.00 | 3.00 |
| 21 | 321 | CA | succ/fail | 4.00 | 3.00 | 3.00 | 2.00 |
| 22 | 322 | CA | succ/fail | 1.00 | 3.00 | 4.00 | 4.00 |
| 23 | 323 | CA | succ/fail | 4.00 | 4.00 | 3.00 | 2.00 |
| 24 | 324 | CA | succ/fail | 1.00 | 4.00 | .00 | 3.00 |
| 25 | 325 | CA | succ/fail | 4.00 | 4.00 | 3.00 | 4.00 |
| 26 | 326 | CA | succ/fail | 4.00 | 4.00 | 2.00 | 2.00 |
| 27 | 327 | CA | succ/fail | 4.00 | 3.00 | 1.00 | 1.00 |
| 28 | 328 | CA | succ/fail | 4.00 | 3.00 | .00 | 2.00 |
| 29 | 329 | CA | succ/fail | .00 | 2.00 | 1.00 | 2.00 |
| 30 | 330 | CA | succ/fail | 4.00 | 4.00 | 2.00 | 1.00 |
| 31 | 331 | CA | succ/fail | 4.00 | 4.00 | 3.00 | 2.00 |
| 32 | 332 | CA | succ/fail | 3.00 | 4.00 | 3.00 | .00 |
| 33 | 333 | CA | succ/fail | 1.00 | 3.00 | 1.00 | 2.00 |
| 34 | 334 | CA | succ/fail | 3.00 | 4.00 | .00 | 3.00 |
| 35 | 335 | CA | fail/succ | 3.00 | 3.00 | 2.00 | 3.00 |
| 36 | 336 | CA | fail/succ | 1.00 | 2.00 | 1.00 | .00 |
| 37 | 337 | CA | fail/succ | 3.00 | 4.00 | 3.00 | 3.00 |
| 38 | 338 | CA | fail/succ | 4.00 | 4.00 | 2.00 | 3.00 |

| | iri5 | iri6 | iri7 | iri8 | iri9 | iri10 | iri11 |
|---|---|---|---|---|---|---|---|
| 1 | 3.00 | 1.00 | 2.00 | 4.00 | 4.00 | 3.00 | 3.00 |
| 2 | 2.00 | 3.00 | .00 | 3.00 | 4.00 | 3.00 | 1.00 |
| 3 | 4.00 | .00 | 2.00 | 4.00 | 4.00 | 2.00 | 4.00 |
| 4 | 4.00 | 2.00 | 2.00 | 4.00 | 3.00 | 2.00 | 4.00 |
| 5 | 3.00 | .00 | 2.00 | 4.00 | 2.00 | 1.00 | 2.00 |
| 6 | .00 | 2.00 | 2.00 | 4.00 | 3.00 | 1.00 | 4.00 |
| 7 | 4.00 | 1.00 | 3.00 | 4.00 | 4.00 | 2.00 | 4.00 |
| 8 | .00 | 3.00 | 1.00 | 3.00 | 3.00 | 4.00 | 3.00 |
| 9 | 4.00 | 2.00 | 2.00 | 4.00 | 4.00 | 4.00 | 3.00 |
| 10 | 3.00 | 2.00 | 2.00 | 4.00 | 3.00 | 2.00 | 3.00 |
| 11 | 4.00 | 1.00 | 3.00 | 2.00 | 4.00 | 2.00 | 4.00 |
| 12 | 4.00 | 2.00 | 2.00 | 4.00 | 4.00 | 4.00 | 3.00 |
| 13 | 1.00 | 1.00 | 3.00 | 4.00 | 4.00 | 4.00 | 2.00 |
| 14 | 2.00 | 2.00 | 2.00 | 3.00 | 4.00 | 4.00 | 3.00 |
| 15 | 2.00 | 1.00 | 1.00 | 3.00 | 3.00 | 2.00 | 3.00 |
| 16 | 3.00 | 4.00 | .00 | 4.00 | 4.00 | 1.00 | 3.00 |
| 17 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 18 | 4.00 | 3.00 | 3.00 | 3.00 | 4.00 | 3.00 | 3.00 |
| 19 | 1.00 | 2.00 | 3.00 | 4.00 | 4.00 | 4.00 | 3.00 |
| 20 | .00 | .00 | 2.00 | 3.00 | 4.00 | 1.00 | 4.00 |
| 21 | 4.00 | 2.00 | 3.00 | 4.00 | 4.00 | 3.00 | . |
| 22 | .00 | 3.00 | .00 | 4.00 | 3.00 | 2.00 | 3.00 |
| 23 | 2.00 | 2.00 | 2.00 | 4.00 | 4.00 | 1.00 | 4.00 |
| 24 | 1.00 | 2.00 | 1.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 25 | 3.00 | 1.00 | 2.00 | 4.00 | 4.00 | 3.00 | .00 |
| 26 | 2.00 | 1.00 | .00 | 4.00 | 4.00 | 3.00 | 3.00 |
| 27 | 4.00 | 2.00 | 3.00 | 3.00 | 4.00 | 4.00 | 4.00 |
| 28 | 4.00 | 1.00 | 3.00 | 3.00 | 4.00 | 4.00 | 3.00 |
| 29 | 3.00 | .00 | 1.00 | 4.00 | 4.00 | 1.00 | 3.00 |
| 30 | 2.00 | 1.00 | 2.00 | 4.00 | 3.00 | 3.00 | 4.00 |
| 31 | 3.00 | 2.00 | 2.00 | 4.00 | 4.00 | 3.00 | 4.00 |
| 32 | 4.00 | 3.00 | 2.00 | 4.00 | 1.00 | 1.00 | 4.00 |
| 33 | 4.00 | 2.00 | .00 | 2.00 | 4.00 | 4.00 | 3.00 |
| 34 | .00 | 4.00 | 4.00 | 4.00 | 4.00 | .00 | 4.00 |
| 35 | 3.00 | 2.00 | 1.00 | 3.00 | 4.00 | 4.00 | 4.00 |
| 36 | 2.00 | 2.00 | .00 | 3.00 | 4.00 | 2.00 | 2.00 |
| 37 | 3.00 | 2.00 | 1.00 | 2.00 | 4.00 | 2.00 | 3.00 |
| 38 | 4.00 | . | 4.00 | 4.00 | 4.00 | 4.00 | 3.00 |

| | iri12 | iri13 | iri14 | iri15 | iri16 | iri17 | iri18 |
|---|---|---|---|---|---|---|---|
| 1 | 3.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 2 | 3.00 | 1.00 | 1.00 | 2.00 | 2.00 | 3.00 | .00 |
| 3 | 3.00 | .00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| 4 | 4.00 | .00 | 3.00 | 3.00 | 4.00 | 2.00 | 3.00 |
| 5 | 2.00 | .00 | .00 | 2.00 | 2.00 | .00 | 2.00 |
| 6 | 2.00 | 2.00 | 4.00 | 1.00 | 1.00 | 2.00 | 4.00 |
| 7 | .00 | 3.00 | 3.00 | 3.00 | 2.00 | 1.00 | 4.00 |
| 8 | .00 | 1.00 | 2.00 | 1.00 | .00 | 3.00 | 1.00 |
| 9 | 2.00 | .00 | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 |
| 10 | .00 | .00 | 3.00 | 3.00 | 4.00 | 2.00 | 3.00 |
| 11 | 2.00 | .00 | 3.00 | 2.00 | 3.00 | 3.00 | 3.00 |
| 12 | 3.00 | 1.00 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 |
| 13 | 1.00 | 1.00 | .00 | . | . | . | . |
| 14 | 1.00 | .00 | 1.00 | 1.00 | 3.00 | 3.00 | 2.00 |
| 15 | 3.00 | .00 | 1.00 | 2.00 | 3.00 | 2.00 | 1.00 |
| 16 | 3.00 | 1.00 | 1.00 | 1.00 | 2.00 | 3.00 | 3.00 |
| 17 | 4.00 | .00 | 4.00 | 2.00 | 4.00 | 3.00 | 3.00 |
| 18 | 4.00 | 1.00 | 3.00 | 3.00 | 1.00 | 1.00 | 4.00 |
| 19 | .00 | .00 | 1.00 | 3.00 | 1.00 | 1.00 | 3.00 |
| 20 | .00 | .00 | 3.00 | 1.00 | .00 | 1.00 | 3.00 |
| 21 | .00 | .00 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 |
| 22 | .00 | .00 | 3.00 | 3.00 | .00 | 1.00 | 3.00 |
| 23 | 2.00 | .00 | .00 | 3.00 | 1.00 | 1.00 | 3.00 |
| 24 | 1.00 | .00 | 3.00 | 3.00 | 1.00 | 4.00 | 3.00 |
| 25 | .00 | 3.00 | 2.00 | 4.00 | 3.00 | 1.00 | .00 |
| 26 | 2.00 | .00 | 1.00 | .00 | .00 | 1.00 | 2.00 |
| 27 | 2.00 | 1.00 | 2.00 | 2.00 | 4.00 | 3.00 | 3.00 |
| 28 | 3.00 | .00 | 2.00 | .00 | 4.00 | 3.00 | 3.00 |
| 29 | .00 | .00 | 2.00 | 1.00 | .00 | 1.00 | 3.00 |
| 30 | 1.00 | .00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| 31 | 2.00 | 1.00 | 3.00 | 4.00 | 1.00 | 3.00 | 3.00 |
| 32 | 3.00 | .00 | 2.00 | 1.00 | 3.00 | 2.00 | 3.00 |
| 33 | 1.00 | .00 | 2.00 | .00 | 1.00 | 2.00 | 2.00 |
| 34 | 3.00 | .00 | 1.00 | 3.00 | 2.00 | 3.00 | 4.00 |
| 35 | 4.00 | .00 | 2.00 | 2.00 | 3.00 | 3.00 | 3.00 |
| 36 | 2.00 | .00 | 2.00 | .00 | 1.00 | 1.00 | 3.00 |
| 37 | .00 | 1.00 | 2.00 | .00 | .00 | 1.00 | 2.00 |
| 38 | 4.00 | 1.00 | 4.00 | 3.00 | 4.00 | 2.00 | 4.00 |

| | iri19 | iri20 | iri21 | iri22 | iri23 | iri24 | iri25 |
|---|---|---|---|---|---|---|---|
| 1 | .00 | 4.00 | 3.00 | 4.00 | 3.00 | 1.00 | 2.00 |
| 2 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | 2.00 | 2.00 |
| 3 | .00 | 3.00 | 4.00 | 4.00 | 3.00 | .00 | 3.00 |
| 4 | .00 | 4.00 | 4.00 | 4.00 | 4.00 | 1.00 | 3.00 |
| 5 | .00 | 2.00 | 3.00 | 2.00 | 3.00 | .00 | 1.00 |
| 6 | 1.00 | 4.00 | 4.00 | 4.00 | 4.00 | 2.00 | 4.00 |
| 7 | .00 | 4.00 | 4.00 | 4.00 | 3.00 | 1.00 | 3.00 |
| 8 | 1.00 | 3.00 | 3.00 | 3.00 | .00 | .00 | 3.00 |
| 9 | .00 | 4.00 | 4.00 | 4.00 | 3.00 | 1.00 | 4.00 |
| 10 | .00 | 3.00 | 3.00 | 4.00 | 3.00 | 1.00 | 3.00 |
| 11 | 3.00 | 4.00 | 4.00 | 4.00 | 4.00 | 1.00 | 1.00 |
| 12 | 1.00 | 4.00 | 3.00 | 3.00 | 2.00 | 2.00 | 2.00 |
| 13 | . | . | . | . | . | . | . |
| 14 | .00 | 4.00 | 3.00 | 4.00 | 4.00 | 2.00 | 2.00 |
| 15 | .00 | 3.00 | 2.00 | 3.00 | 2.00 | 1.00 | 2.00 |
| 16 | 1.00 | 3.00 | 3.00 | 2.00 | 3.00 | 1.00 | 2.00 |
| 17 | .00 | 4.00 | 4.00 | 4.00 | 4.00 | 1.00 | . |
| 18 | 1.00 | 4.00 | 4.00 | 4.00 | 2.00 | 3.00 | 4.00 |
| 19 | 1.00 | 2.00 | 4.00 | 4.00 | 1.00 | 1.00 | 3.00 |
| 20 | .00 | 4.00 | 4.00 | 3.00 | 3.00 | .00 | 3.00 |
| 21 | .00 | 3.00 | 4.00 | 3.00 | 3.00 | 1.00 | 4.00 |
| 22 | 1.00 | 3.00 | 4.00 | 4.00 | 1.00 | 1.00 | 2.00 |
| 23 | .00 | 4.00 | 4.00 | 4.00 | 3.00 | 1.00 | 3.00 |
| 24 | .00 | 3.00 | 3.00 | 4.00 | 1.00 | 2.00 | 4.00 |
| 25 | .00 | 3.00 | 3.00 | 2.00 | .00 | 3.00 | 3.00 |
| 26 | .00 | 4.00 | 4.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 27 | .00 | 4.00 | 3.00 | 4.00 | 4.00 | 1.00 | 2.00 |
| 28 | .00 | 4.00 | 2.00 | 4.00 | 4.00 | 1.00 | 2.00 |
| 29 | .00 | 4.00 | 1.00 | 2.00 | .00 | .00 | 1.00 |
| 30 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | 1.00 | 2.00 |
| 31 | .00 | 4.00 | 4.00 | 4.00 | 1.00 | 3.00 | 4.00 |
| 32 | .00 | 4.00 | 4.00 | 4.00 | 4.00 | 1.00 | 3.00 |
| 33 | .00 | 4.00 | 3.00 | 3.00 | 2.00 | 2.00 | 2.00 |
| 34 | .00 | 4.00 | 4.00 | 4.00 | 4.00 | .00 | 1.00 |
| 35 | .00 | 4.00 | 3.00 | 4.00 | 4.00 | 2.00 | 3.00 |
| 36 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | 2.00 | 2.00 |
| 37 | .00 | 4.00 | 3.00 | 4.00 | 3.00 | 2.00 | . |
| 38 | .00 | 4.00 | 4.00 | 4.00 | 4.00 | 2.00 | 1.00 |

| | iri26 | iri27 | iri28 | injseves | behavios | outcomes | cds1s |
|---|---|---|---|---|---|---|---|
| 1 | 1.00 | 1.00 | 4.00 | major | compliant | success | 5.00 |
| 2 | 2.00 | 2.00 | 4.00 | moderate | compliant | success | 4.00 |
| 3 | 4.00 | .00 | 4.00 | major | compliant | success | 6.00 |
| 4 | 4.00 | 1.00 | 3.00 | major | compliant | success | 5.00 |
| 5 | 4.00 | .00 | 2.00 | major | compliant | success | 1.00 |
| 6 | .00 | 3.00 | 4.00 | major | compliant | success | 6.00 |
| 7 | 3.00 | 1.00 | 4.00 | minor | compliant | success | 1.00 |
| 8 | .00 | .00 | 3.00 | major | compliant | success | 1.00 |
| 9 | 3.00 | 1.00 | 4.00 | moderate | compliant | success | 4.00 |
| 10 | 3.00 | 1.00 | 4.00 | major | compliant | success | 8.00 |
| 11 | 4.00 | 1.00 | 4.00 | minor | compliant | success | 4.00 |
| 12 | 4.00 | 1.00 | 3.00 | moderate | compliant | success | 3.00 |
| 13 | . | . | . | moderate | compliant | success | 5.00 |
| 14 | 2.00 | 2.00 | 3.00 | major | compliant | success | 2.00 |
| 15 | 2.00 | 1.00 | 3.00 | major | compliant | success | 8.00 |
| 16 | 2.00 | 2.00 | 2.00 | major | compliant | success | 5.00 |
| 17 | 4.00 | 1.00 | 4.00 | major | compliant | success | 6.00 |
| 18 | 4.00 | 3.00 | 3.00 | moderate | compliant | success | 3.00 |
| 19 | 1.00 | 1.00 | 4.00 | major | compliant | success | 3.00 |
| 20 | 3.00 | .00 | 3.00 | major | compliant | success | 3.00 |
| 21 | 4.00 | 1.00 | 4.00 | major | compliant | success | 9.00 |
| 22 | 1.00 | 1.00 | 3.00 | major | compliant | success | 8.00 |
| 23 | 3.00 | 1.00 | 4.00 | moderate | compliant | success | 9.00 |
| 24 | 3.00 | 1.00 | 4.00 | major | compliant | success | 8.00 |
| 25 | 1.00 | 3.00 | 3.00 | moderate | non-compli | success | 7.00 |
| 26 | 3.00 | 1.00 | 3.00 | moderate | compliant | success | 9.00 |
| 27 | 4.00 | 1.00 | 2.00 | major | compliant | success | 7.00 |
| 28 | 4.00 | 1.00 | 3.00 | moderate | non-compli | success | 6.00 |
| 29 | .00 | .00 | 4.00 | minor | compliant | success | 5.00 |
| 30 | 2.00 | 1.00 | 3.00 | major | compliant | success | 7.00 |
| 31 | 2.00 | 1.00 | 4.00 | moderate | compliant | success | 9.00 |
| 32 | 4.00 | 1.00 | 3.00 | moderate | compliant | success | 9.00 |
| 33 | 2.00 | 2.00 | 4.00 | major | compliant | success | 8.00 |
| 34 | 4.00 | .00 | 2.00 | major | compliant | success | 5.00 |
| 35 | 4.00 | 2.00 | 3.00 | major | compliant | success | 9.00 |
| 36 | 4.00 | 1.00 | 3.00 | moderate | compliant | success | 2.00 |
| 37 | 2.00 | 2.00 | 4.00 | moderate | compliant | success | 3.00 |
| 38 | 4.00 | 1.00 | 3.00 | major | compliant | success | 4.00 |

| | cds2s | cds3s | cds4s | cds5s | cds6s | cds7s | cds8s |
|---|---|---|---|---|---|---|---|
| 1 | 6.00 | 7.00 | 7.00 | 7.00 | 5.00 | 9.00 | 5.00 |
| 2 | 6.00 | 4.00 | 4.00 | 3.00 | 3.00 | 5.00 | 5.00 |
| 3 | 6.00 | 4.00 | 7.00 | 6.00 | 4.00 | 4.00 | 6.00 |
| 4 | 4.00 | 7.00 | 5.00 | 5.00 | 4.00 | 7.00 | 5.00 |
| 5 | 1.00 | 1.00 | 4.00 | 1.00 | 1.00 | 3.00 | 1.00 |
| 6 | 5.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 7 | 1.00 | 1.00 | 5.00 | 5.00 | 3.00 | 5.00 | 3.00 |
| 8 | 5.00 | 9.00 | 5.00 | 5.00 | 1.00 | 9.00 | 5.00 |
| 9 | 4.00 | 4.00 | 5.00 | 6.00 | 4.00 | 4.00 | 6.00 |
| 10 | 7.00 | 5.00 | 4.00 | 6.00 | 6.00 | 5.00 | 7.00 |
| 11 | 7.00 | 7.00 | 7.00 | 7.00 | . | 7.00 | 1.00 |
| 12 | 2.00 | 2.00 | 6.00 | 8.00 | 2.00 | 4.00 | 8.00 |
| 13 | 7.00 | 5.00 | 7.00 | 8.00 | 5.00 | 7.00 | 7.00 |
| 14 | 2.00 | 6.00 | 3.00 | 3.00 | 3.00 | 5.00 | 3.00 |
| 15 | 6.00 | 8.00 | 6.00 | 6.00 | 8.00 | 6.00 | 3.00 |
| 16 | 5.00 | 4.00 | 4.00 | 7.00 | 3.00 | 4.00 | 6.00 |
| 17 | 7.00 | 6.00 | 7.00 | 6.00 | 6.00 | 4.00 | . |
| 18 | 1.00 | 2.00 | 2.00 | 8.00 | 2.00 | 4.00 | 8.00 |
| 19 | 4.00 | 3.00 | 3.00 | 2.00 | 1.00 | 3.00 | . |
| 20 | 3.00 | 1.00 | 4.00 | 8.00 | 1.00 | 1.00 | 7.00 |
| 21 | 9.00 | 5.00 | 7.00 | 5.00 | 8.00 | 8.00 | 4.00 |
| 22 | 9.00 | 1.00 | 8.00 | 8.00 | 9.00 | 8.00 | 1.00 |
| 23 | 9.00 | 3.00 | 9.00 | 3.00 | 9.00 | 9.00 | 3.00 |
| 24 | 8.00 | 8.00 | 4.00 | 7.00 | 8.00 | 7.00 | 4.00 |
| 25 | 9.00 | 3.00 | 7.00 | 7.00 | 3.00 | 5.00 | 6.00 |
| 26 | 9.00 | 9.00 | 9.00 | 8.00 | 9.00 | 9.00 | 1.00 |
| 27 | 6.00 | 7.00 | 6.00 | 2.00 | 8.00 | 5.00 | 4.00 |
| 28 | 4.00 | 6.00 | 4.00 | 1.00 | 6.00 | 8.00 | 2.00 |
| 29 | 9.00 | 2.00 | 9.00 | 3.00 | 7.00 | 5.00 | 2.00 |
| 30 | 8.00 | 8.00 | 8.00 | 7.00 | 7.00 | 5.00 | 7.00 |
| 31 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 7.00 | 1.00 |
| 32 | 9.00 | 9.00 | 9.00 | 1.00 | 9.00 | 9.00 | 1.00 |
| 33 | 9.00 | 9.00 | 9.00 | 4.00 | 8.00 | 8.00 | 3.00 |
| 34 | 9.00 | 2.00 | 5.00 | 5.00 | 8.00 | 8.00 | 4.00 |
| 35 | 9.00 | 2.00 | 8.00 | 6.00 | 5.00 | 6.00 | 6.00 |
| 36 | 5.00 | 7.00 | 3.00 | 1.00 | 4.00 | 6.00 | 2.00 |
| 37 | 7.00 | 8.00 | 6.00 | 7.00 | 8.00 | 8.00 | 7.00 |
| 38 | 4.00 | 7.00 | 8.00 | 6.00 | 6.00 | 3.00 | 2.00 |

| | cds9s | cds10s | cds11s | cds12s | responss | expects | ptes |
|---|---|---|---|---|---|---|---|
| 1 | 5.00 | 7.00 | 3.00 | 7.00 | the AT/PT | 9.00 | 9.00 |
| 2 | 5.00 | 4.00 | 5.00 | 5.00 | the AT/PT | 5.00 | 6.00 |
| 3 | 5.00 | 4.00 | 3.00 | 7.00 | the athlete | 9.00 | 9.00 |
| 4 | 5.00 | 5.00 | 4.00 | 6.00 | the athlete | 7.00 | 8.00 |
| 5 | 1.00 | 1.00 | 1.00 | 1.00 | the athlete | 9.00 | 9.00 |
| 6 | 4.00 | 4.00 | 4.00 | 3.00 | the athlete | 6.00 | 8.00 |
| 7 | 3.00 | 4.00 | 4.00 | 4.00 | the athlete | 9.00 | 9.00 |
| 8 | 1.00 | 5.00 | 9.00 | 5.00 | the athlete | .00 | .00 |
| 9 | 4.00 | 4.00 | 4.00 | 7.00 | the athlete | 7.00 | 7.00 |
| 10 | 6.00 | 6.00 | 6.00 | 7.00 | the AT/PT | 7.00 | 7.00 |
| 11 | 9.00 | 9.00 | . | 7.00 | the athlete | 7.00 | 9.00 |
| 12 | 5.00 | 6.00 | 2.00 | 8.00 | the athlete | 2.00 | 5.00 |
| 13 | 7.00 | 7.00 | 7.00 | 7.00 | the athlete | 9.00 | 9.00 |
| 14 | 6.00 | 5.00 | 5.00 | 7.00 | the athlete | 7.00 | 6.00 |
| 15 | 8.00 | 6.00 | 2.00 | 6.00 | the athlete | 9.00 | 5.00 |
| 16 | 4.00 | 4.00 | 3.00 | 7.00 | the doctor | 8.00 | 8.00 |
| 17 | 5.00 | 6.00 | 6.00 | 6.00 | the athlete | 7.00 | 7.00 |
| 18 | 2.00 | 3.00 | 3.00 | 8.00 | the athlete | 8.00 | 8.00 |
| 19 | 3.00 | 4.00 | 2.00 | 4.00 | the athlete | 2.00 | 4.00 |
| 20 | 5.00 | 6.00 | 1.00 | 7.00 | the athlete | 8.00 | 8.00 |
| 21 | 8.00 | 8.00 | 8.00 | 3.00 | me-the athl | 6.00 | 9.00 |
| 22 | 8.00 | 9.00 | 1.00 | 4.00 | me-the athl | 8.00 | 8.00 |
| 23 | 9.00 | 9.00 | 3.00 | 3.00 | me-the athl | 9.00 | 9.00 |
| 24 | 8.00 | 5.00 | 3.00 | 6.00 | me-the athl | 7.00 | 7.00 |
| 25 | 6.00 | 6.00 | 3.00 | 6.00 | the AT/PT | 6.00 | 7.00 |
| 26 | 7.00 | 9.00 | 8.00 | 1.00 | me-the athl | 9.00 | 9.00 |
| 27 | 9.00 | 6.00 | 3.00 | 3.00 | me-the athl | 7.00 | 4.00 |
| 28 | 8.00 | 5.00 | 6.00 | 1.00 | me-the athl | 3.00 | 2.00 |
| 29 | 9.00 | 9.00 | 1.00 | 5.00 | me-the athl | 9.00 | 9.00 |
| 30 | 7.00 | 5.00 | 6.00 | 6.00 | me-the athl | 6.00 | 5.00 |
| 31 | 9.00 | 9.00 | 1.00 | 1.00 | me-the athl | 7.00 | 9.00 |
| 32 | 9.00 | 9.00 | 9.00 | 1.00 | me-the athl | 9.00 | 9.00 |
| 33 | 8.00 | 9.00 | 5.00 | 3.00 | me-the athl | 9.00 | 9.00 |
| 34 | 8.00 | 7.00 | 2.00 | 3.00 | the AT/PT | 5.00 | 8.00 |
| 35 | 6.00 | 8.00 | 1.00 | 7.00 | me-the athl | 8.00 | 7.00 |
| 36 | 7.00 | 4.00 | 3.00 | 1.00 | me-the athl | 7.00 | 7.00 |
| 37 | 8.00 | 7.00 | 6.00 | 6.00 | me-the athl | 9.00 | 6.00 |
| 38 | 7.00 | 7.00 | 3.00 | 2.00 | me-the athl | 6.00 | 9.00 |

| | athsexs | athspts | injsevef | behaviof | outcomef | cds1f | cds2f |
|---|---|---|---|---|---|---|---|
| 1 | male | swimming | moderate | compliant | failure | 4.00 | 5.00 |
| 2 | female | softball | major | compliant | failure | 6.00 | 2.00 |
| 3 | female | soccer | moderate | non-compli | failure | 3.00 | 8.00 |
| 4 | female | swimming | moderate | non-compli | failure | 5.00 | 4.00 |
| 5 | female | soccer | moderate | compliant | failure | 2.00 | 6.00 |
| 6 | female | softball | moderate | compliant | failure | 6.00 | 7.00 |
| 7 | female | soccer | major | non-compli | failure | 8.00 | 9.00 |
| 8 | female | basketba | major | compliant | success | 1.00 | 5.00 |
| 9 | female | soccer | moderate | non-compli | failure | 4.00 | 2.00 |
| 10 | female | cheer | moderate | compliant | success | 5.00 | 5.00 |
| 11 | female | volleyba | moderate | non-compli | failure | 2.00 | 8.00 |
| 12 | female | basketba | moderate | non-compli | failure | 2.00 | 6.00 |
| 13 | female | softball | major | non-compli | failure | 1.00 | 9.00 |
| 14 | female | basketba | moderate | compliant | failure | 5.00 | 3.00 |
| 15 | female | basketba | major | compliant | success | 7.00 | 4.00 |
| 16 | female | tennis | moderate | non-compli | failure | 7.00 | 6.00 |
| 17 | female | volleyba | moderate | compliant | success | 1.00 | 6.00 |
| 18 | female | volleyba | major | non-compli | failure | 5.00 | 6.00 |
| 19 | male | basketba | moderate | compliant | success | 2.00 | 5.00 |
| 20 | female | track | major | non-compli | failure | 1.00 | 7.00 |
| 21 | . | softball | moderate | non-compli | failure | 2.00 | 8.00 |
| 22 | . | basketba | moderate | non-compli | failure | 8.00 | 8.00 |
| 23 | . | swimming | major | compliant | success | 9.00 | 9.00 |
| 24 | . | softball | moderate | compliant | failure | 6.00 | 5.00 |
| 25 | . | | moderate | compliant | success | 3.00 | 3.00 |
| 26 | . | basketba | moderate | compliant | success | 1.00 | 3.00 |
| 27 | . | softball | major | compliant | failure | 3.00 | 5.00 |
| 28 | . | basketba | moderate | non-compli | failure | 7.00 | 8.00 |
| 29 | . | softball | moderate | non-compli | failure | 9.00 | 9.00 |
| 30 | . | basketba | moderate | compliant | failure | 8.00 | 8.00 |
| 31 | . | basketba | moderate | non-compli | failure | 9.00 | 9.00 |
| 32 | . | track | moderate | non-compli | failure | 9.00 | 9.00 |
| 33 | . | basketba | moderate | compliant | failure | 7.00 | 7.00 |
| 34 | . | basketba | moderate | compliant | success | 5.00 | 8.00 |
| 35 | . | soccer | moderate | non-compli | failure | 3.00 | 3.00 |
| 36 | . | soccer | moderate | compliant | failure | 4.00 | 5.00 |
| 37 | . | basketba | moderate | compliant | success | 7.00 | 9.00 |
| 38 | . | volleyba | moderate | compliant | success | 9.00 | 7.00 |

| | cds3f | cds4f | cds5f | cds6f | cds7f | cds8f | cds9f |
|---|---|---|---|---|---|---|---|
| 1 | 3.00 | 7.00 | 7.00 | 5.00 | 8.00 | 5.00 | 6.00 |
| 2 | 2.00 | 1.00 | 5.00 | 1.00 | 4.00 | 7.00 | 4.00 |
| 3 | 3.00 | 7.00 | 7.00 | 3.00 | 3.00 | 7.00 | 4.00 |
| 4 | 1.00 | 4.00 | 5.00 | 5.00 | 4.00 | 4.00 | 5.00 |
| 5 | 2.00 | 6.00 | 3.00 | 3.00 | 3.00 | 2.00 | 4.00 |
| 6 | 4.00 | 7.00 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| 7 | 5.00 | 9.00 | 7.00 | 8.00 | 8.00 | 7.00 | 7.00 |
| 8 | 1.00 | 5.00 | 5.00 | 1.00 | 1.00 | 5.00 | 1.00 |
| 9 | 3.00 | 5.00 | 6.00 | 6.00 | 4.00 | 4.00 | 4.00 |
| 10 | 3.00 | 4.00 | 7.00 | 4.00 | 6.00 | 7.00 | 6.00 |
| 11 | 1.00 | 8.00 | 1.00 | . | 8.00 | 1.00 | . |
| 12 | 4.00 | 6.00 | 8.00 | 6.00 | 6.00 | 5.00 | 5.00 |
| 13 | 2.00 | 9.00 | 5.00 | 5.00 | 6.00 | 4.00 | 6.00 |
| 14 | 3.00 | 4.00 | 3.00 | 3.00 | 3.00 | 4.00 | 5.00 |
| 15 | 2.00 | 4.00 | 3.00 | 3.00 | 2.00 | 4.00 | 6.00 |
| 16 | 3.00 | 7.00 | 6.00 | 5.00 | 3.00 | 7.00 | 6.00 |
| 17 | 1.00 | 5.00 | 2.00 | 1.00 | 1.00 | 3.00 | 5.00 |
| 18 | 3.00 | 5.00 | 9.00 | 1.00 | 3.00 | 9.00 | 2.00 |
| 19 | 2.00 | 5.00 | 2.00 | 2.00 | 4.00 | 3.00 | 3.00 |
| 20 | 1.00 | 8.00 | 5.00 | 1.00 | 1.00 | 5.00 | 3.00 |
| 21 | 3.00 | 8.00 | 2.00 | 8.00 | 2.00 | 8.00 | 8.00 |
| 22 | 5.00 | 8.00 | 8.00 | 9.00 | 4.00 | 2.00 | 8.00 |
| 23 | 3.00 | 9.00 | 3.00 | 9.00 | 9.00 | 3.00 | 9.00 |
| 24 | 3.00 | 5.00 | 6.00 | 5.00 | 5.00 | 4.00 | 5.00 |
| 25 | 3.00 | 3.00 | 2.00 | 7.00 | 3.00 | 3.00 | 7.00 |
| 26 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 7.00 |
| 27 | 2.00 | 4.00 | 3.00 | 5.00 | 3.00 | 2.00 | 6.00 |
| 28 | 3.00 | 8.00 | 4.00 | 8.00 | 3.00 | 4.00 | 9.00 |
| 29 | 2.00 | 9.00 | 1.00 | 9.00 | 2.00 | 1.00 | 9.00 |
| 30 | 3.00 | 8.00 | 2.00 | 8.00 | 6.00 | 3.00 | 8.00 |
| 31 | 1.00 | 9.00 | 1.00 | 9.00 | 9.00 | 1.00 | 8.00 |
| 32 | 5.00 | 9.00 | 1.00 | 9.00 | 5.00 | 1.00 | 9.00 |
| 33 | 6.00 | 8.00 | 7.00 | 9.00 | 5.00 | 7.00 | 8.00 |
| 34 | 4.00 | 6.00 | 2.00 | 7.00 | 4.00 | 2.00 | 7.00 |
| 35 | 1.00 | 9.00 | 2.00 | 4.00 | 7.00 | 3.00 | 7.00 |
| 36 | 3.00 | 4.00 | 5.00 | 3.00 | 2.00 | 2.00 | 6.00 |
| 37 | 3.00 | 6.00 | 1.00 | 4.00 | 7.00 | 1.00 | 6.00 |
| 38 | 1.00 | 5.00 | 1.00 | 9.00 | 8.00 | 1.00 | 8.00 |

| | cds10f | cds11f | cds12f | responsf | expectf | ptef | athsexf |
|---|---|---|---|---|---|---|---|
| 1 | 6.00 | 3.00 | 6.00 | athlete's pa | 7.00 | 7.00 | female |
| 2 | 4.00 | 3.00 | 5.00 | the AT/PT | 5.00 | 3.00 | female |
| 3 | 5.00 | 3.00 | 7.00 | me-the coa | 4.00 | 9.00 | female |
| 4 | 5.00 | 2.00 | 6.00 | the athlete | 7.00 | 8.00 | female |
| 5 | 7.00 | 1.00 | 2.00 | me-the coa | 5.00 | 8.00 | female |
| 6 | 5.00 | 5.00 | 5.00 | the athlete | 7.00 | 7.00 | female |
| 7 | 8.00 | 1.00 | 7.00 | the athlete | 9.00 | 9.00 | female |
| 8 | 1.00 | 1.00 | 9.00 | the athlete | 5.00 | 3.00 | female |
| 9 | 5.00 | 4.00 | 6.00 | the athlete | 7.00 | 6.00 | female |
| 10 | 3.00 | 4.00 | 5.00 | the athlete | 6.00 | 7.00 | female |
| 11 | 3.00 | 1.00 | 1.00 | the doctor | 4.00 | 9.00 | female |
| 12 | 4.00 | 4.00 | 5.00 | the athlete | 8.00 | 8.00 | female |
| 13 | 5.00 | 6.00 | 3.00 | the athlete | .00 | 9.00 | female |
| 14 | 3.00 | 5.00 | 5.00 | the athlete | 6.00 | 7.00 | female |
| 15 | 3.00 | 3.00 | 3.00 | the athlete | 9.00 | 9.00 | female |
| 16 | 6.00 | 3.00 | 7.00 | me-the coa | 8.00 | 6.00 | female |
| 17 | 6.00 | 1.00 | 2.00 | the athlete | 8.00 | 8.00 | female |
| 18 | 3.00 | 2.00 | 8.00 | the athlete | 6.00 | 9.00 | female |
| 19 | 4.00 | 3.00 | 5.00 | the athlete | 5.00 | 1.00 | female |
| 20 | 7.00 | 1.00 | 6.00 | the athlete | 4.00 | 3.00 | female |
| 21 | 8.00 | 2.00 | 3.00 | me-the athl | 2.00 | 2.00 | . |
| 22 | 8.00 | 2.00 | 2.00 | me-the athl | 7.00 | .00 | . |
| 23 | 9.00 | 3.00 | 3.00 | me-the athl | 3.00 | 9.00 | . |
| 24 | 5.00 | 4.00 | 5.00 | me-the athl | 3.00 | 8.00 | . |
| 25 | 5.00 | 4.00 | 2.00 | me-the athl | 8.00 | 8.00 | . |
| 26 | 2.00 | 8.00 | 2.00 | other | 2.00 | 3.00 | . |
| 27 | 5.00 | 3.00 | 3.00 | me-the athl | 5.00 | 5.00 | . |
| 28 | 9.00 | 3.00 | 4.00 | me-the athl | 2.00 | 4.00 | . |
| 29 | 9.00 | 1.00 | 1.00 | me-the athl | 6.00 | 9.00 | . |
| 30 | 9.00 | 5.00 | 2.00 | me-the athl | 6.00 | 8.00 | . |
| 31 | 8.00 | 1.00 | 2.00 | me-the athl | 7.00 | 6.00 | . |
| 32 | 9.00 | 5.00 | 1.00 | me-the athl | 7.00 | 4.00 | . |
| 33 | 8.00 | 5.00 | 7.00 | me-the athl | 4.00 | 9.00 | . |
| 34 | 6.00 | 4.00 | 5.00 | me-the athl | 7.00 | 7.00 | . |
| 35 | 7.00 | 2.00 | 2.00 | me-the athl | 2.00 | 8.00 | . |
| 36 | 4.00 | 2.00 | 2.00 | me-the athl | 2.00 | 7.00 | . |
| 37 | 7.00 | 5.00 | 1.00 | me-the athl | 7.00 | 6.00 | . |
| 38 | 8.00 | 1.00 | 1.00 | me-the athl | 7.00 | 9.00 | . |

| | athsptf | age | sex | ethnicit | cchyrs | sptlevel | numspts |
|---|---|---|---|---|---|---|---|
| 1 | volleyba | 25.00 | female | Caucasian | 3.00 | interschola | 2.00 |
| 2 | volleyba | 56.00 | female | Caucasian | 10.00 | interschola | 3.00 |
| 3 | soccer | 23.00 | female | Caucasian | 6.00 | interschola | 1.00 |
| 4 | swimming | 31.00 | female | Caucasian | 3.00 | interschola | 1.00 |
| 5 | soccer | 25.00 | male | Caucasian | 4.00 | intercollegi | 1.00 |
| 6 | softball | 21.00 | female | Caucasian | 3.00 | interschola | 1.00 |
| 7 | soccer | 50.00 | female | Caucasian | 27.00 | interschola | 1.00 |
| 8 | basketba | 25.00 | female | Caucasian | 3.00 | interschola | 2.00 |
| 9 | soccer | 28.00 | female | Caucasian | 5.00 | interschola | 2.00 |
| 10 | cheer | 49.00 | female | Caucasian | 10.00 | interschola | 1.00 |
| 11 | volleyba | 47.00 | female | Caucasian | 20.00 | interschola | 3.00 |
| 12 | basketba | 24.00 | female | Caucasian | 3.00 | interschola | 2.00 |
| 13 | softball | 30.00 | female | Caucasian | 9.00 | interschola | 1.00 |
| 14 | basketba | 37.00 | female | Caucasian | 13.00 | interschola | 1.00 |
| 15 | basketba | 38.00 | female | Caucasian | 15.00 | interschola | 1.00 |
| 16 | tennis | 45.00 | female | Caucasian | 5.00 | interschola | 1.00 |
| 17 | volleyba | 26.00 | female | Caucasian | 2.00 | interschola | 2.00 |
| 18 | volleyba | 26.00 | female | Caucasian | 1.00 | interschola | 1.00 |
| 19 | track | 30.00 | female | Caucasian | 5.00 | interschola | 3.00 |
| 20 | track | 34.00 | female | Caucasian | 11.00 | interschola | 2.00 |
| 21 | basketba | 26.00 | female | Caucasian | 3.00 | interschola | 3.00 |
| 22 | volleyba | 35.00 | female | Caucasian | 12.00 | interschola | 1.00 |
| 23 | swimming | 30.00 | female | Caucasian | 5.00 | interschola | 1.00 |
| 24 | basketba | 25.00 | female | Caucasian | 2.00 | . | . |
| 25 | basketba | 29.00 | female | Caucasian | 6.00 | . | . |
| 26 | basketba | 30.00 | female | Caucasian | 8.00 | interschola | 1.00 |
| 27 | softball | 31.00 | female | Caucasian | 8.00 | interschola | 1.00 |
| 28 | basketba | 27.00 | female | Caucasian | 2.00 | interschola | 2.00 |
| 29 | softball | 25.00 | female | Caucasian | 7.00 | interschola | 1.00 |
| 30 | basketba | 29.00 | female | Caucasian | 3.00 | interschola | 1.00 |
| 31 | volleyba | 31.00 | female | Caucasian | 10.00 | interschola | 1.00 |
| 32 | basketba | 27.00 | female | Caucasian | 1.00 | interschola | 1.00 |
| 33 | soccer | 30.00 | female | Caucasian | 9.00 | interschola | 2.00 |
| 34 | basketba | 24.00 | female | Caucasian | 3.00 | interschola | 2.00 |
| 35 | basketba | 22.00 | female | Caucasian | 3.00 | interschola | 2.00 |
| 36 | soccer | 45.00 | female | Caucasian | 7.00 | interschola | 2.00 |
| 37 | basketba | 34.00 | male | Caucasian | 10.00 | interschola | 2.00 |
| 38 | volleyba | 21.00 | female | Caucasian | 4.00 | interschola | 2.00 |

| | sptcch1 | sexof1 | cchposit | doctor | paydoc | trainer | cprfa |
|---|---|---|---|---|---|---|---|
| 1 | swimming | female&m | head coac | yes | no | yes | yes |
| 2 | basketba | female | head coac | yes | yes | yes | yes |
| 3 | soccer | female | head coac | yes | no | yes | no |
| 4 | swimming | female&m | assistant c | no | no | yes | yes |
| 5 | soccer | male | assistant c | yes | yes | yes | no |
| 6 | softball | female | assistant c | yes | no | yes | yes |
| 7 | soccer | female | head coac | yes | no | yes | yes |
| 8 | basketba | female | head coac | no | no | yes | yes |
| 9 | soccer | female | head coac | no | no | no | yes |
| 10 | cheer | female | head coac | yes | yes | yes | yes |
| 11 | x-countr | . | head coac | yes | no | yes | yes |
| 12 | basketba | female | assistant c | no | no | no | yes |
| 13 | softball | female | head coac | yes | no | yes | yes |
| 14 | basketba | female | head coac | yes | no | yes | yes |
| 15 | basketba | female | head coac | yes | no | yes | yes |
| 16 | tennis | female&m | head coac | yes | no | yes | yes |
| 17 | track | female&m | assistant c | yes | yes | yes | no |
| 18 | volleyba | female | assistant c | no | no | yes | no |
| 19 | basketba | female | head coac | no | no | no | yes |
| 20 | x-countr | female | head coac | yes | no | yes | yes |
| 21 | basketba | female | assistant c | yes | yes | yes | yes |
| 22 | softball | female | head coac | no | no | no | yes |
| 23 | swimming | female&m | head coac | no | no | yes | yes |
| 24 | | . | assistant c | no | yes | yes | yes |
| 25 | | . | . | no | no | yes | yes |
| 26 | basketba | female | head coac | yes | no | yes | yes |
| 27 | softball | female | head coac | yes | yes | yes | yes |
| 28 | basketba | female | assistant c | yes | yes | yes | yes |
| 29 | volleyba | female | assistant c | yes | no | yes | yes |
| 30 | basketba | female&m | assistant c | no | no | yes | yes |
| 31 | volleyba | female | head coac | yes | no | yes | yes |
| 32 | softball | female | assistant c | no | no | yes | no |
| 33 | basketba | female | head coac | no | no | yes | yes |
| 34 | basketba | female&m | head coac | yes | yes | yes | yes |
| 35 | basketba | female | head coac | yes | no | yes | yes |
| 36 | soccer | female&m | assistant c | no | no | no | yes |
| 37 | basketba | female&m | assistant c | yes | yes | yes | yes |
| 38 | softball | female | assistant c | no | no | yes | no |

| | needcprf | athwinj | injtype | ending | continue |
|---|---|---|---|---|---|
| 1 | no | yes | major | yes | yes |
| 2 | yes | yes | major | no | no |
| 3 | . | yes | moderate | no | yes |
| 4 | no | no | moderate | no | no |
| 5 | no | yes | major | no | no |
| 6 | yes | yes | moderate | no | no |
| 7 | yes | no | none | . | . |
| 8 | no | yes | moderate | no | no |
| 9 | no | yes | moderate | no | yes |
| 10 | no | no | none | . | . |
| 11 | no | yes | moderate | no | yes |
| 12 | yes | yes | major | no | no |
| 13 | no | no | major | no | no |
| 14 | yes | yes | minor | no | no |
| 15 | no | yes | minor | no | yes |
| 16 | no | yes | moderate | no | yes |
| 17 | no | no | moderate | no | yes |
| 18 | . | no | minor | no | yes |
| 19 | yes | no | major | no | no |
| 20 | no | yes | moderate | no | no |
| 21 | yes | no | major | no | yes |
| 22 | no | no | major | no | no |
| 23 | no | no | minor | no | no |
| 24 | no | yes | moderate | no | yes |
| 25 | yes | . | moderate | no | yes |
| 26 | yes | yes | moderate | no | yes |
| 27 | yes | yes | moderate | no | yes |
| 28 | yes | yes | minor | no | no |
| 29 | yes | no | none | . | . |
| 30 | yes | yes | moderate | no | yes |
| 31 | yes | yes | major | no | yes |
| 32 | . | yes | moderate | no | no |
| 33 | no | yes | minor | no | no |
| 34 | no | yes | major | no | yes |
| 35 | no | yes | moderate | no | no |
| 36 | yes | no | major | no | yes |
| 37 | no | yes | minor | no | no |
| 38 | no | yes | moderate | no | yes |

| | subject | situatio | cdsorder | iri1 | iri2 | iri3 | iri4 |
|---|---|---|---|---|---|---|---|
| 39 | 339 | CA | fail/succ | 1.00 | 3.00 | 1.00 | 1.00 |
| 40 | 340 | CA | fail/succ | 3.00 | 4.00 | 4.00 | 4.00 |
| 41 | 341 | CA | succ/fail | 1.00 | 4.00 | 3.00 | 3.00 |
| 42 | 342 | CA | succ/fail | 1.00 | 4.00 | 4.00 | 4.00 |
| 43 | 343 | CA | succ/fail | 2.00 | 2.00 | 4.00 | 2.00 |
| 44 | 344 | CA | succ/fail | .00 | 3.00 | 3.00 | 3.00 |
| 45 | 345 | CA | succ/fail | .00 | 2.00 | 2.00 | 2.00 |
| 46 | 346 | CA | succ/fail | 3.00 | 4.00 | 1.00 | 1.00 |
| 47 | 347 | CA | succ/fail | 3.00 | 2.00 | 1.00 | 3.00 |
| 48 | 348 | CA | succ/fail | 1.00 | 1.00 | 1.00 | 3.00 |
| 49 | 349 | CA | succ/fail | 3.00 | 3.00 | 3.00 | 4.00 |
| 50 | 350 | CA | succ/fail | 2.00 | 2.00 | 3.00 | 2.00 |
| 51 | 351 | CA | succ/fail | 2.00 | 3.00 | 3.00 | 2.00 |
| 52 | 352 | CA | succ/fail | 3.00 | 4.00 | 3.00 | 3.00 |
| 53 | 353 | CA | fail/succ | 4.00 | 4.00 | 3.00 | 3.00 |
| 54 | 354 | CA | fail/succ | 3.00 | 2.00 | 2.00 | 2.00 |
| 55 | 355 | CA | fail/succ | .00 | 4.00 | 2.00 | 3.00 |
| 56 | 356 | CA | fail/succ | .00 | .00 | 4.00 | 3.00 |
| 57 | 357 | CA | fail/succ | .00 | 4.00 | 3.00 | 3.00 |
| 58 | 358 | CA | fail/succ | 2.00 | 3.00 | 3.00 | 3.00 |
| 59 | 359 | CA | fail/succ | 3.00 | 3.00 | 2.00 | 1.00 |
| 60 | 360 | CA | fail/succ | 1.00 | 4.00 | 3.00 | 4.00 |
| 61 | 361 | CA | fail/succ | 4.00 | 4.00 | 4.00 | 4.00 |
| 62 | 362 | CA | fail/succ | 3.00 | 4.00 | 3.00 | 4.00 |
| 63 | 363 | CC | fail/succ | 2.00 | 3.00 | 3.00 | 3.00 |
| 64 | 364 | CC | fail/succ | 1.00 | 3.00 | 3.00 | 4.00 |
| 65 | 365 | CC | fail/succ | 3.00 | 4.00 | 3.00 | 3.00 |
| 66 | 366 | CC | fail/succ | 2.00 | 4.00 | 4.00 | 2.00 |
| 67 | 367 | CC | fail/succ | 4.00 | 4.00 | 3.00 | 3.00 |
| 68 | 368 | CC | fail/succ | 1.00 | 2.00 | 2.00 | 3.00 |
| 69 | 369 | CC | fail/succ | .00 | 3.00 | 3.00 | 2.00 |
| 70 | 370 | CC | fail/succ | 1.00 | 3.00 | 4.00 | 4.00 |
| 71 | 371 | CC | fail/succ | 2.00 | 2.00 | 4.00 | 3.00 |
| 72 | 372 | CC | fail/succ | .00 | 4.00 | 4.00 | 4.00 |
| 73 | 373 | CC | fail/succ | .00 | 2.00 | 4.00 | 2.00 |
| 74 | 374 | CC | fail/succ | 2.00 | 2.00 | 2.00 | 1.00 |
| 75 | 375 | CC | fail/succ | .00 | 2.00 | 4.00 | 3.00 |
| 76 | 376 | CC | fail/succ | .00 | 3.00 | 3.00 | 3.00 |

| | iri5 | iri6 | iri7 | iri8 | iri9 | iri10 | iri11 |
|---|---|---|---|---|---|---|---|
| 39 | 2.00 | 2.00 | 1.00 | 4.00 | 4.00 | 1.00 | 3.00 |
| 40 | 4.00 | 3.00 | 1.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 41 | 1.00 | 1.00 | 3.00 | 4.00 | 3.00 | 1.00 | 4.00 |
| 42 | 2.00 | 1.00 | 3.00 | 4.00 | 4.00 | 1.00 | 4.00 |
| 43 | 3.00 | 2.00 | 3.00 | 4.00 | 3.00 | 2.00 | 3.00 |
| 44 | 4.00 | .00 | 2.00 | 3.00 | 3.00 | 1.00 | 4.00 |
| 45 | 1.00 | 1.00 | 1.00 | 2.00 | 3.00 | 1.00 | 2.00 |
| 46 | 2.00 | .00 | 2.00 | 2.00 | 3.00 | 1.00 | 3.00 |
| 47 | 2.00 | 1.00 | 1.00 | 1.00 | 3.00 | 1.00 | 1.00 |
| 48 | 2.00 | 1.00 | 3.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 49 | 3.00 | 1.00 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| 50 | 2.00 | .00 | 3.00 | 3.00 | 2.00 | 1.00 | 2.00 |
| 51 | .00 | .00 | 3.00 | 3.00 | 4.00 | .00 | 4.00 |
| 52 | 1.00 | 1.00 | 2.00 | 2.00 | 3.00 | 2.00 | 2.00 |
| 53 | 4.00 | .00 | 4.00 | 4.00 | 4.00 | .00 | 4.00 |
| 54 | .00 | 1.00 | 1.00 | 4.00 | 3.00 | 1.00 | 2.00 |
| 55 | .00 | .00 | 1.00 | 4.00 | 4.00 | 4.00 | 2.00 |
| 56 | .00 | .00 | 4.00 | 2.00 | 1.00 | .00 | 1.00 |
| 57 | 3.00 | 2.00 | 4.00 | 4.00 | 3.00 | 1.00 | 3.00 |
| 58 | 3.00 | 1.00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 |
| 59 | 2.00 | 2.00 | 1.00 | 2.00 | 3.00 | 2.00 | 2.00 |
| 60 | 4.00 | 1.00 | 2.00 | 4.00 | 4.00 | .00 | 3.00 |
| 61 | 2.00 | 1.00 | 3.00 | 4.00 | 4.00 | 2.00 | 4.00 |
| 62 | 4.00 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | 3.00 |
| 63 | 2.00 | .00 | 2.00 | 3.00 | 4.00 | .00 | 2.00 |
| 64 | 3.00 | 2.00 | 2.00 | 2.00 | 1.00 | 2.00 | 3.00 |
| 65 | 2.00 | 1.00 | 2.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 66 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 |
| 67 | 2.00 | 1.00 | 4.00 | 3.00 | 4.00 | 4.00 | 3.00 |
| 68 | 3.00 | .00 | 1.00 | 2.00 | 4.00 | .00 | 2.00 |
| 69 | .00 | .00 | 1.00 | 2.00 | 2.00 | .00 | 2.00 |
| 70 | 1.00 | .00 | 2.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| 71 | 3.00 | 2.00 | 3.00 | 4.00 | 3.00 | 3.00 | 3.00 |
| 72 | 2.00 | .00 | 4.00 | 4.00 | 4.00 | .00 | 4.00 |
| 73 | 2.00 | .00 | 1.00 | 4.00 | 3.00 | .00 | 4.00 |
| 74 | 2.00 | 1.00 | 1.00 | 3.00 | 2.00 | 2.00 | 2.00 |
| 75 | 2.00 | 1.00 | 2.00 | 4.00 | 3.00 | 1.00 | 3.00 |
| 76 | .00 | .00 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 |

| | iri12 | iri13 | iri14 | iri15 | iri16 | iri17 | iri18 |
|---|---|---|---|---|---|---|---|
| 39 | 1.00 | .00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 40 | 3.00 | 1.00 | 3.00 | .00 | 3.00 | 3.00 | 4.00 |
| 41 | .00 | .00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 |
| 42 | 2.00 | 1.00 | 4.00 | 4.00 | .00 | 3.00 | 4.00 |
| 43 | 3.00 | 1.00 | 1.00 | 2.00 | .00 | 2.00 | 2.00 |
| 44 | 4.00 | 1.00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 |
| 45 | 1.00 | 1.00 | 3.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 46 | 2.00 | .00 | 2.00 | 1.00 | 2.00 | .00 | 3.00 |
| 47 | 3.00 | .00 | 1.00 | 2.00 | .00 | .00 | 3.00 |
| 48 | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 2.00 | 3.00 |
| 49 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 |
| 50 | 3.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 | 2.00 |
| 51 | .00 | .00 | 4.00 | 3.00 | .00 | .00 | 4.00 |
| 52 | 1.00 | 1.00 | 3.00 | 1.00 | 1.00 | 1.00 | 3.00 |
| 53 | 4.00 | .00 | 2.00 | 3.00 | .00 | .00 | 2.00 |
| 54 | 1.00 | 1.00 | 2.00 | .00 | .00 | 1.00 | 2.00 |
| 55 | .00 | .00 | 4.00 | 2.00 | .00 | .00 | 4.00 |
| 56 | 4.00 | 1.00 | 2.00 | 3.00 | .00 | .00 | 2.00 |
| 57 | 4.00 | 1.00 | 3.00 | 3.00 | 2.00 | 1.00 | 3.00 |
| 58 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 | 1.00 | 3.00 |
| 59 | 3.00 | 2.00 | 2.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| 60 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | .00 | 4.00 |
| 61 | 3.00 | 1.00 | 4.00 | 3.00 | 4.00 | 1.00 | 4.00 |
| 62 | 4.00 | 1.00 | 4.00 | 2.00 | 4.00 | 1.00 | 4.00 |
| 63 | 4.00 | 2.00 | 4.00 | 4.00 | 1.00 | .00 | 4.00 |
| 64 | 3.00 | 2.00 | 3.00 | 3.00 | 1.00 | 2.00 | 3.00 |
| 65 | 3.00 | 3.00 | 1.00 | 2.00 | .00 | 4.00 | 4.00 |
| 66 | 1.00 | 3.00 | 4.00 | 3.00 | 2.00 | 1.00 | 4.00 |
| 67 | 1.00 | .00 | 4.00 | 2.00 | 3.00 | 1.00 | .00 |
| 68 | 4.00 | .00 | 2.00 | 2.00 | .00 | .00 | 4.00 |
| 69 | .00 | 1.00 | 3.00 | 2.00 | 1.00 | .00 | 3.00 |
| 70 | 4.00 | .00 | 3.00 | 4.00 | 3.00 | .00 | 4.00 |
| 71 | 4.00 | 1.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| 72 | 4.00 | .00 | 4.00 | 4.00 | 2.00 | .00 | .00 |
| 73 | 2.00 | .00 | 1.00 | 3.00 | .00 | .00 | 4.00 |
| 74 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 | 2.00 | 2.00 |
| 75 | 4.00 | 1.00 | 2.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| 76 | 1.00 | 1.00 | 3.00 | 2.00 | .00 | .00 | 3.00 |

| | iri19 | iri20 | iri21 | iri22 | iri23 | iri24 | iri25 |
|---|---|---|---|---|---|---|---|
| 39 | .00 | 3.00 | 4.00 | 3.00 | 2.00 | 1.00 | 3.00 |
| 40 | 1.00 | 4.00 | 3.00 | 4.00 | 4.00 | 3.00 | 3.00 |
| 41 | .00 | 3.00 | 4.00 | 3.00 | 1.00 | 1.00 | 3.00 |
| 42 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | .00 | 3.00 |
| 43 | 1.00 | 3.00 | 3.00 | 3.00 | 2.00 | .00 | 3.00 |
| 44 | .00 | 4.00 | 4.00 | 3.00 | 1.00 | .00 | 2.00 |
| 45 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 46 | .00 | 3.00 | 2.00 | 2.00 | 1.00 | .00 | 2.00 |
| 47 | .00 | 3.00 | 2.00 | 1.00 | 2.00 | .00 | 1.00 |
| 48 | 1.00 | 2.00 | 3.00 | 2.00 | 2.00 | .00 | 2.00 |
| 49 | 2.00 | 2.00 | 3.00 | 3.00 | 2.00 | 1.00 | 2.00 |
| 50 | 1.00 | 2.00 | 3.00 | 2.00 | 2.00 | .00 | 2.00 |
| 51 | .00 | 3.00 | 3.00 | 3.00 | 1.00 | .00 | 3.00 |
| 52 | 1.00 | 3.00 | 2.00 | 3.00 | 1.00 | 1.00 | 2.00 |
| 53 | .00 | 4.00 | 4.00 | 4.00 | 4.00 | .00 | 4.00 |
| 54 | .00 | 3.00 | 4.00 | 2.00 | .00 | .00 | 2.00 |
| 55 | .00 | 4.00 | 4.00 | 4.00 | .00 | .00 | 4.00 |
| 56 | .00 | 1.00 | 2.00 | .00 | .00 | .00 | 1.00 |
| 57 | 1.00 | 3.00 | 3.00 | 4.00 | 3.00 | .00 | 2.00 |
| 58 | 1.00 | 3.00 | 4.00 | 3.00 | 3.00 | 1.00 | 4.00 |
| 59 | 2.00 | 3.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 60 | .00 | 1.00 | 4.00 | 3.00 | 4.00 | .00 | 1.00 |
| 61 | 1.00 | 3.00 | 4.00 | 4.00 | 2.00 | 1.00 | 4.00 |
| 62 | .00 | 4.00 | 4.00 | 3.00 | 2.00 | .00 | 2.00 |
| 63 | .00 | 4.00 | 4.00 | 3.00 | 2.00 | .00 | 2.00 |
| 64 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| 65 | .00 | 3.00 | 3.00 | 1.00 | 1.00 | 1.00 | 3.00 |
| 66 | 1.00 | 4.00 | 3.00 | 4.00 | 3.00 | 1.00 | 3.00 |
| 67 | 3.00 | 3.00 | 2.00 | 4.00 | 3.00 | 1.00 | 1.00 |
| 68 | .00 | 2.00 | 2.00 | 2.00 | 3.00 | .00 | 2.00 |
| 69 | .00 | 2.00 | 3.00 | 2.00 | 1.00 | .00 | 1.00 |
| 70 | .00 | 4.00 | 4.00 | 4.00 | 3.00 | .00 | 4.00 |
| 71 | 1.00 | 3.00 | 4.00 | 4.00 | 3.00 | 1.00 | 2.00 |
| 72 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | .00 | 4.00 |
| 73 | .00 | 1.00 | 4.00 | 2.00 | 1.00 | .00 | 3.00 |
| 74 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 75 | 1.00 | 2.00 | 4.00 | 2.00 | 2.00 | .00 | 2.00 |
| 76 | 1.00 | 4.00 | 3.00 | 3.00 | .00 | .00 | 1.00 |

| | iri26 | iri27 | iri28 | injseves | behavios | outcomes | cds1s |
|---|---|---|---|---|---|---|---|
| 39 | 3.00 | 1.00 | 3.00 | major | compliant | success | 7.00 |
| 40 | 4.00 | 1.00 | 4.00 | moderate | compliant | success | 7.00 |
| 41 | 1.00 | 1.00 | 4.00 | moderate | compliant | success | 9.00 |
| 42 | 2.00 | .00 | 4.00 | moderate | compliant | success | 9.00 |
| 43 | 1.00 | .00 | 2.00 | moderate | compliant | success | 7.00 |
| 44 | 1.00 | .00 | 3.00 | major | compliant | success | 3.00 |
| 45 | 2.00 | 1.00 | 1.00 | moderate | compliant | success | 8.00 |
| 46 | 2.00 | .00 | 2.00 | major | compliant | success | 8.00 |
| 47 | 1.00 | .00 | 1.00 | moderate | compliant | success | 8.00 |
| 48 | 1.00 | .00 | 2.00 | major | compliant | success | 9.00 |
| 49 | 2.00 | 1.00 | 3.00 | major | compliant | success | 5.00 |
| 50 | 2.00 | 1.00 | 2.00 | moderate | compliant | success | 7.00 |
| 51 | .00 | .00 | 3.00 | moderate | compliant | success | 7.00 |
| 52 | 1.00 | 1.00 | 2.00 | major | compliant | success | 9.00 |
| 53 | .00 | .00 | 3.00 | minor | compliant | success | 1.00 |
| 54 | 1.00 | 1.00 | 2.00 | major | compliant | success | 6.00 |
| 55 | .00 | .00 | 2.00 | major | compliant | success | 9.00 |
| 56 | .00 | .00 | 1.00 | minor | compliant | success | 8.00 |
| 57 | 2.00 | 1.00 | 3.00 | minor | compliant | success | 9.00 |
| 58 | 3.00 | 1.00 | 3.00 | major | compliant | success | 7.00 |
| 59 | 3.00 | 2.00 | 2.00 | major | compliant | success | 4.00 |
| 60 | 3.00 | .00 | 3.00 | minor | compliant | success | 5.00 |
| 61 | 2.00 | 1.00 | 4.00 | major | compliant | success | 1.00 |
| 62 | 2.00 | .00 | 3.00 | major | compliant | success | 5.00 |
| 63 | 1.00 | .00 | 3.00 | major | compliant | success | 1.00 |
| 64 | 2.00 | 1.00 | 2.00 | major | compliant | success | 1.00 |
| 65 | 1.00 | .00 | 2.00 | major | compliant | success | 1.00 |
| 66 | 3.00 | .00 | 2.00 | major | compliant | success | 6.00 |
| 67 | 3.00 | 1.00 | 2.00 | moderate | compliant | success | 4.00 |
| 68 | 3.00 | .00 | 2.00 | moderate | compliant | success | 1.00 |
| 69 | 1.00 | .00 | 1.00 | major | compliant | success | 2.00 |
| 70 | 3.00 | .00 | 4.00 | moderate | compliant | success | 1.00 |
| 71 | 2.00 | 1.00 | 3.00 | major | compliant | success | 3.00 |
| 72 | 4.00 | .00 | 4.00 | major | compliant | success | 1.00 |
| 73 | 2.00 | .00 | 3.00 | major | compliant | success | 6.00 |
| 74 | 2.00 | 2.00 | 2.00 | major | compliant | success | 1.00 |
| 75 | 1.00 | 1.00 | 3.00 | major | compliant | success | 3.00 |
| 76 | 1.00 | .00 | 3.00 | moderate | compliant | success | 2.00 |

| | cds2s | cds3s | cds4s | cds5s | cds6s | cds7s | cds8s |
|---|---|---|---|---|---|---|---|
| 39 | 5.00 | 3.00 | 7.00 | 5.00 | 7.00 | 7.00 | 5.00 |
| 40 | 7.00 | 3.00 | 8.00 | 6.00 | 8.00 | 9.00 | 6.00 |
| 41 | 9.00 | 8.00 | 9.00 | 8.00 | 9.00 | 9.00 | 5.00 |
| 42 | 9.00 | 7.00 | 9.00 | 9.00 | 9.00 | 6.00 | 5.00 |
| 43 | 7.00 | 7.00 | 9.00 | 6.00 | 9.00 | 7.00 | 3.00 |
| 44 | 4.00 | 3.00 | 4.00 | 8.00 | 5.00 | 3.00 | 8.00 |
| 45 | 9.00 | 1.00 | 9.00 | 1.00 | 9.00 | 9.00 | 1.00 |
| 46 | 8.00 | 3.00 | 8.00 | 4.00 | 8.00 | 6.00 | 2.00 |
| 47 | 8.00 | 8.00 | 8.00 | 1.00 | 3.00 | 9.00 | 1.00 |
| 48 | 9.00 | 9.00 | 9.00 | 7.00 | 9.00 | 9.00 | 1.00 |
| 49 | 5.00 | 5.00 | 7.00 | 4.00 | 5.00 | 5.00 | 3.00 |
| 50 | 7.00 | 7.00 | 7.00 | 5.00 | 7.00 | 6.00 | 4.00 |
| 51 | 8.00 | 2.00 | 7.00 | 4.00 | 6.00 | 6.00 | 7.00 |
| 52 | 9.00 | 9.00 | 5.00 | 5.00 | 9.00 | 5.00 | 5.00 |
| 53 | 9.00 | 9.00 | 9.00 | 1.00 | 9.00 | 9.00 | 1.00 |
| 54 | 8.00 | 2.00 | 8.00 | 6.00 | 8.00 | 7.00 | 6.00 |
| 55 | 9.00 | 9.00 | 9.00 | 5.00 | 9.00 | 9.00 | 9.00 |
| 56 | 8.00 | 8.00 | 8.00 | 2.00 | 8.00 | 8.00 | 2.00 |
| 57 | 9.00 | 9.00 | 7.00 | 1.00 | 9.00 | 9.00 | 1.00 |
| 58 | 8.00 | 5.00 | 7.00 | 5.00 | 6.00 | 3.00 | 6.00 |
| 59 | 6.00 | 5.00 | 6.00 | 6.00 | 6.00 | 5.00 | 6.00 |
| 60 | 4.00 | 2.00 | 1.00 | 1.00 | 2.00 | 9.00 | 1.00 |
| 61 | 5.00 | 1.00 | 8.00 | 5.00 | 8.00 | 8.00 | 5.00 |
| 62 | 9.00 | 5.00 | 5.00 | 7.00 | 9.00 | 8.00 | 2.00 |
| 63 | 1.00 | 8.00 | 7.00 | 8.00 | 1.00 | 5.00 | 8.00 |
| 64 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 65 | 1.00 | 3.00 | 1.00 | 9.00 | 1.00 | 3.00 | 9.00 |
| 66 | 7.00 | 5.00 | 7.00 | 5.00 | 3.00 | 5.00 | 3.00 |
| 67 | 2.00 | 4.00 | 3.00 | 3.00 | 1.00 | 8.00 | 5.00 |
| 68 | 4.00 | 5.00 | 4.00 | 3.00 | 3.00 | 9.00 | 6.00 |
| 69 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 6.00 | 6.00 |
| 70 | 1.00 | 1.00 | 4.00 | 9.00 | 1.00 | 9.00 | 8.00 |
| 71 | 2.00 | 4.00 | 3.00 | 9.00 | 3.00 | 2.00 | 9.00 |
| 72 | 1.00 | 9.00 | 1.00 | 3.00 | 1.00 | 3.00 | 3.00 |
| 73 | 2.00 | 8.00 | 3.00 | 8.00 | 2.00 | 2.00 | 7.00 |
| 74 | 3.00 | 5.00 | 2.00 | 9.00 | 1.00 | 5.00 | 9.00 |
| 75 | 5.00 | 5.00 | 7.00 | 7.00 | 5.00 | 5.00 | 6.00 |
| 76 | 2.00 | 7.00 | 2.00 | 8.00 | 2.00 | 7.00 | 7.00 |

| | cds9s | cds10s | cds11s | cds12s | responss | expects | ptes |
|---|---|---|---|---|---|---|---|
| 39 | 7.00 | 7.00 | 2.00 | 3.00 | me-the athl | 7.00 | 7.00 |
| 40 | 8.00 | 5.00 | 1.00 | 7.00 | me-the athl | 9.00 | 2.00 |
| 41 | 9.00 | 9.00 | 1.00 | 5.00 | the doctor | 5.00 | 9.00 |
| 42 | 8.00 | 8.00 | 5.00 | 7.00 | the doctor | 7.00 | 7.00 |
| 43 | 7.00 | 7.00 | 5.00 | 3.00 | me-the athl | 7.00 | 8.00 |
| 44 | 5.00 | 5.00 | 1.00 | 9.00 | the AT/PT | 5.00 | 9.00 |
| 45 | 9.00 | 9.00 | 1.00 | 1.00 | me-the athl | 9.00 | 9.00 |
| 46 | 5.00 | 9.00 | 2.00 | 5.00 | me-the athl | 9.00 | 8.00 |
| 47 | 8.00 | 8.00 | 6.00 | 1.00 | me-the athl | 9.00 | 7.00 |
| 48 | 9.00 | 9.00 | 1.00 | 2.00 | me-the athl | 8.00 | 4.00 |
| 49 | 6.00 | 5.00 | 5.00 | 3.00 | me-the athl | 7.00 | 7.00 |
| 50 | 7.00 | 7.00 | 5.00 | 5.00 | me-the athl | 7.00 | 8.00 |
| 51 | 4.00 | 7.00 | 8.00 | 4.00 | me-the athl | 9.00 | 7.00 |
| 52 | 9.00 | 9.00 | 9.00 | 5.00 | me-the athl | 7.00 | 5.00 |
| 53 | 9.00 | 9.00 | 1.00 | 1.00 | me-the athl | 9.00 | 9.00 |
| 54 | 8.00 | 7.00 | 7.00 | 4.00 | . | 9.00 | 9.00 |
| 55 | 9.00 | 9.00 | 9.00 | 6.00 | me-the athl | 9.00 | 9.00 |
| 56 | 8.00 | 8.00 | 7.00 | 2.00 | me-the athl | 8.00 | 8.00 |
| 57 | 9.00 | 9.00 | 5.00 | 1.00 | me-the athl | 9.00 | 9.00 |
| 58 | 5.00 | 7.00 | 3.00 | 6.00 | the AT/PT | 6.00 | 9.00 |
| 59 | 5.00 | 6.00 | 5.00 | 5.00 | me-the athl | 6.00 | 3.00 |
| 60 | 5.00 | 3.00 | 8.00 | 1.00 | the AT/PT | 9.00 | 2.00 |
| 61 | 8.00 | 5.00 | 1.00 | 5.00 | the doctor | 8.00 | 9.00 |
| 62 | 9.00 | 9.00 | 5.00 | 5.00 | me-the athl | 8.00 | 6.00 |
| 63 | 1.00 | 5.00 | 1.00 | 9.00 | the athlete | 8.00 | 9.00 |
| 64 | 3.00 | 2.00 | 3.00 | 1.00 | the athlete | 8.00 | 8.00 |
| 65 | 3.00 | 1.00 | 2.00 | 8.00 | the AT/PT | 2.00 | 9.00 |
| 66 | 8.00 | 7.00 | 7.00 | 5.00 | the AT/PT | 9.00 | 5.00 |
| 67 | 4.00 | 4.00 | 6.00 | 8.00 | the AT/PT | 3.00 | 2.00 |
| 68 | 5.00 | 4.00 | 4.00 | 7.00 | the athlete | 5.00 | 3.00 |
| 69 | 2.00 | 2.00 | 8.00 | 8.00 | the athlete | 7.00 | 9.00 |
| 70 | 1.00 | 1.00 | 1.00 | 8.00 | the doctor | 8.00 | 9.00 |
| 71 | 1.00 | 2.00 | 2.00 | 9.00 | the athlete | 9.00 | 9.00 |
| 72 | 3.00 | 3.00 | 3.00 | 1.00 | the athlete | 9.00 | 9.00 |
| 73 | 2.00 | 2.00 | 2.00 | 7.00 | the athlete | 9.00 | 9.00 |
| 74 | 1.00 | 2.00 | 5.00 | 9.00 | the athlete | 6.00 | 9.00 |
| 75 | 6.00 | 6.00 | 4.00 | 6.00 | the athlete | 7.00 | 7.00 |
| 76 | 2.00 | 2.00 | 2.00 | 8.00 | the athlete | 9.00 | 6.00 |

| | athsexs | athspts | injsevef | behaviof | outcomef | cds1f | cds2f |
|---|---|---|---|---|---|---|---|
| 39 | . | basketba | moderate | compliant | success | 7.00 | 7.00 |
| 40 | . | track | moderate | compliant | success | 5.00 | 7.00 |
| 41 | . | basketba | major | compliant | failure | 1.00 | 4.00 |
| 42 | . | footbal | moderate | compliant | failure | 3.00 | 3.00 |
| 43 | . | basketba | moderate | compliant | failure | 1.00 | 7.00 |
| 44 | . | rowing | moderate | compliant | success | 2.00 | 8.00 |
| 45 | . | track | major | compliant | success | 1.00 | 1.00 |
| 46 | . | volleyba | major | compliant | success | 1.00 | 2.00 |
| 47 | . | f-hockey | major | compliant | failure | 1.00 | 1.00 |
| 48 | . | swimming | moderate | compliant | failure | 1.00 | 9.00 |
| 49 | . | track | moderate | compliant | . | 4.00 | 6.00 |
| 50 | . | lacrosse | minor | non-compli | failure | 8.00 | 8.00 |
| 51 | . | soccer | moderate | non-compli | failure | 8.00 | 8.00 |
| 52 | . | tennis | moderate | compliant | success | 6.00 | 7.00 |
| 53 | . | f-hockey | moderate | compliant | success | 5.00 | 9.00 |
| 54 | . | basketba | moderate | compliant | success | 2.00 | 8.00 |
| 55 | . | track | moderate | compliant | success | 9.00 | 9.00 |
| 56 | . | track | major | compliant | success | 8.00 | 8.00 |
| 57 | . | volleyba | minor | compliant | success | 2.00 | 9.00 |
| 58 | . | track | major | compliant | failure | 2.00 | 6.00 |
| 59 | . | gymnasti | major | compliant | failure | 6.00 | 6.00 |
| 60 | . | football | moderate | compliant | success | 9.00 | 5.00 |
| 61 | . | gymnasti | moderate | compliant | failure | 1.00 | 3.00 |
| 62 | . | basketba | moderate | compliant | success | 2.00 | 2.00 |
| 63 | female | basketba | major | compliant | success | 1.00 | 1.00 |
| 64 | male | soccer | moderate | compliant | failure | 1.00 | 1.00 |
| 65 | female | basketba | major | compliant | failure | 3.00 | 1.00 |
| 66 | male | track | moderate | compliant | success | 2.00 | 5.00 |
| 67 | female | track | minor | compliant | success | 4.00 | 4.00 |
| 68 | female | crew | major | compliant | failure | 1.00 | 5.00 |
| 69 | female | softball | moderate | compliant | failure | 2.00 | 2.00 |
| 70 | female | basketba | moderate | compliant | failure | 7.00 | 5.00 |
| 71 | female | softball | moderate | compliant | success | 5.00 | 7.00 |
| 72 | female | basketba | major | compliant | success | 1.00 | 1.00 |
| 73 | male | baseball | moderate | non-compli | failure | 6.00 | 2.00 |
| 74 | male | track | major | non-compli | failure | 3.00 | 4.00 |
| 75 | male | diving | moderate | compliant | success | 3.00 | 6.00 |
| 76 | male | soccer | major | non-compli | failure | 2.00 | 2.00 |

| | cds3f | cds4f | cds5f | cds6f | cds7f | cds8f | cds9f |
|---|---|---|---|---|---|---|---|
| 39 | 4.00 | 7.00 | 3.00 | 7.00 | 7.00 | 3.00 | 7.00 |
| 40 | 2.00 | 6.00 | 4.00 | 8.00 | 4.00 | 4.00 | 7.00 |
| 41 | 2.00 | 4.00 | 5.00 | 5.00 | 1.00 | 5.00 | 5.00 |
| 42 | 2.00 | 4.00 | 1.00 | 5.00 | 5.00 | 2.00 | 8.00 |
| 43 | 2.00 | 4.00 | 1.00 | 3.00 | 4.00 | 3.00 | 7.00 |
| 44 | 3.00 | 8.00 | 5.00 | 4.00 | 1.00 | 3.00 | 7.00 |
| 45 | 1.00 | 1.00 | 1.00 | 1.00 | 9.00 | 1.00 | 5.00 |
| 46 | 2.00 | 2.00 | 2.00 | 3.00 | 2.00 | 1.00 | 5.00 |
| 47 | 1.00 | 1.00 | 1.00 | 1.00 | 9.00 | 1.00 | 5.00 |
| 48 | 1.00 | 9.00 | 3.00 | 8.00 | 3.00 | 3.00 | 9.00 |
| 49 | 3.00 | 7.00 | 3.00 | 7.00 | 7.00 | 3.00 | 7.00 |
| 50 | 6.00 | 7.00 | 5.00 | 7.00 | 7.00 | 5.00 | 7.00 |
| 51 | 3.00 | 7.00 | 3.00 | 7.00 | 4.00 | 2.00 | 9.00 |
| 52 | 7.00 | 7.00 | 3.00 | 7.00 | 5.00 | 5.00 | 7.00 |
| 53 | 1.00 | 5.00 | 1.00 | 9.00 | 9.00 | 1.00 | 9.00 |
| 54 | 1.00 | 8.00 | 5.00 | 5.00 | 8.00 | 5.00 | 8.00 |
| 55 | 1.00 | 9.00 | 9.00 | 9.00 | 9.00 | 1.00 | 9.00 |
| 56 | 2.00 | 8.00 | 2.00 | 8.00 | 8.00 | 2.00 | 8.00 |
| 57 | 1.00 | 9.00 | 1.00 | 8.00 | 2.00 | 1.00 | 8.00 |
| 58 | 2.00 | 6.00 | 6.00 | 2.00 | 2.00 | 3.00 | 7.00 |
| 59 | 3.00 | 5.00 | 3.00 | 6.00 | 3.00 | 3.00 | 7.00 |
| 60 | 1.00 | 7.00 | 1.00 | 3.00 | 9.00 | 1.00 | 8.00 |
| 61 | 1.00 | 5.00 | 5.00 | 1.00 | 2.00 | 5.00 | 1.00 |
| 62 | 3.00 | 5.00 | 1.00 | 8.00 | 8.00 | 1.00 | 5.00 |
| 63 | 1.00 | 4.00 | 8.00 | 1.00 | 1.00 | 8.00 | 1.00 |
| 64 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 5.00 |
| 65 | 4.00 | 3.00 | 1.00 | 1.00 | 4.00 | 9.00 | 1.00 |
| 66 | 2.00 | 5.00 | 1.00 | 2.00 | 3.00 | 3.00 | 5.00 |
| 67 | 2.00 | 6.00 | 6.00 | 5.00 | 5.00 | 5.00 | 3.00 |
| 68 | 3.00 | 5.00 | 6.00 | 1.00 | 4.00 | 5.00 | 1.00 |
| 69 | 2.00 | 2.00 | 7.00 | 2.00 | 2.00 | 7.00 | 2.00 |
| 70 | 3.00 | 5.00 | 7.00 | 3.00 | 9.00 | 7.00 | 2.00 |
| 71 | 3.00 | 6.00 | 7.00 | 3.00 | 1.00 | 8.00 | 5.00 |
| 72 | 1.00 | 3.00 | 9.00 | 3.00 | 5.00 | 7.00 | 7.00 |
| 73 | 2.00 | 3.00 | 8.00 | 1.00 | 2.00 | 8.00 | 3.00 |
| 74 | 3.00 | 4.00 | 9.00 | 1.00 | 3.00 | 9.00 | 3.00 |
| 75 | 1.00 | 7.00 | 6.00 | 4.00 | 6.00 | 7.00 | 4.00 |
| 76 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 8.00 | 2.00 |

| | cds10f | cds11f | cds12f | responsf | expectf | ptef | athsexf |
|---|---|---|---|---|---|---|---|
| 39 | 7.00 | 2.00 | 2.00 | me-the athl | 7.00 | 7.00 | . |
| 40 | 6.00 | 5.00 | 7.00 | me-the athl | 7.00 | 7.00 | . |
| 41 | 9.00 | 5.00 | 5.00 | me-the athl | 5.00 | 9.00 | . |
| 42 | 3.00 | 5.00 | 2.00 | other | 5.00 | 8.00 | . |
| 43 | 5.00 | 5.00 | 2.00 | other | 7.00 | 8.00 | . |
| 44 | 7.00 | 1.00 | 7.00 | me-the athl | 5.00 | 9.00 | . |
| 45 | 5.00 | 1.00 | 1.00 | me-the athl | .00 | 9.00 | . |
| 46 | 2.00 | 8.00 | 2.00 | other | 8.00 | 8.00 | . |
| 47 | 1.00 | 9.00 | 1.00 | other | .00 | 9.00 | . |
| 48 | 9.00 | 2.00 | 4.00 | me-the athl | 1.00 | 8.00 | . |
| 49 | 7.00 | 3.00 | 3.00 | me-the athl | 7.00 | 7.00 | . |
| 50 | 7.00 | 4.00 | 5.00 | me-the athl | 3.00 | 8.00 | . |
| 51 | 9.00 | 2.00 | 2.00 | me-the athl | 6.00 | .00 | . |
| 52 | 7.00 | 4.00 | 7.00 | me-the athl | 2.00 | 5.00 | . |
| 53 | 9.00 | 1.00 | 1.00 | me-the athl | 9.00 | 9.00 | . |
| 54 | 7.00 | 5.00 | 6.00 | me-the athl | 8.00 | 8.00 | . |
| 55 | 9.00 | 1.00 | 1.00 | me-the athl | 5.00 | 9.00 | . |
| 56 | 8.00 | 2.00 | 2.00 | me-the athl | 8.00 | 7.00 | . |
| 57 | 8.00 | 2.00 | 2.00 | me-the athl | 3.00 | 8.00 | . |
| 58 | 5.00 | 3.00 | 3.00 | other | 3.00 | 9.00 | . |
| 59 | 5.00 | 3.00 | 3.00 | me-the athl | 4.00 | 4.00 | . |
| 60 | 4.00 | 2.00 | 1.00 | me-the athl | 2.00 | 9.00 | . |
| 61 | 5.00 | 1.00 | 5.00 | other | 9.00 | 9.00 | . |
| 62 | 2.00 | 4.00 | 1.00 | other | 4.00 | 8.00 | . |
| 63 | 5.00 | 1.00 | 8.00 | the athlete | 5.00 | 9.00 | female |
| 64 | 2.00 | 8.00 | 2.00 | other | . | 8.00 | male |
| 65 | 1.00 | 3.00 | 3.00 | the AT/PT | 2.00 | 8.00 | female |
| 66 | 5.00 | 2.00 | 2.00 | me-the coa | 8.00 | 9.00 | female |
| 67 | 7.00 | 3.00 | 1.00 | other | 5.00 | 6.00 | male |
| 68 | 5.00 | 1.00 | 9.00 | the athlete | . | .00 | female |
| 69 | 1.00 | 2.00 | 6.00 | the athlete | 1.00 | 9.00 | female |
| 70 | 2.00 | 2.00 | 8.00 | the athlete | 6.00 | 9.00 | female |
| 71 | 7.00 | 2.00 | 7.00 | the athlete | 7.00 | 9.00 | female |
| 72 | 5.00 | 9.00 | 5.00 | the athlete | 7.00 | 9.00 | female |
| 73 | 2.00 | 2.00 | 8.00 | the athlete | 8.00 | 9.00 | male |
| 74 | 1.00 | 3.00 | 9.00 | the athlete | 4.00 | 9.00 | female |
| 75 | 7.00 | 2.00 | 6.00 | the athlete | 7.00 | 3.00 | male |
| 76 | 2.00 | 3.00 | 8.00 | the athlete | 2.00 | 2.00 | male |

| | athsptf | age | sex | ethnicit | cchyrs | sptlevel | numspts |
|---|---|---|---|---|---|---|---|
| 39 | basketba | 27.00 | female | Caucasian | 4.00 | interschola | 1.00 |
| 40 | basketba | 47.00 | female | Caucasian | 8.00 | interschola | 2.00 |
| 41 | basketba | 60.00 | male | Caucasian | 30.00 | intercollegi | 1.00 |
| 42 | baseball | 35.00 | male | Caucasian | 19.00 | intercollegi | 1.00 |
| 43 | basketba | 33.00 | male | . | 9.00 | intercollegi | 1.00 |
| 44 | soccer | 45.00 | female | Caucasian | 26.00 | intercollegi | 1.00 |
| 45 | track | 32.00 | male | Caucasian | 10.00 | intercollegi | 1.00 |
| 46 | volleyba | 32.00 | male | Caucasian | 10.00 | intercollegi | 1.00 |
| 47 | f-hockey | 26.00 | female | Other | 3.00 | intercollegi | 1.00 |
| 48 | soccer | 39.00 | male | Caucasian | 22.00 | intercollegi | 2.00 |
| 49 | track | . | male | African Am | 25.00 | intercollegi | 2.00 |
| 50 | lacrosse | 41.00 | male | Hispanic/L | 6.00 | intercollegi | 1.00 |
| 51 | soccer | 32.00 | male | Hispanic/L | 10.00 | interschola | 2.00 |
| 52 | tennis | 37.00 | male | Caucasian | 15.00 | intercollegi | 1.00 |
| 53 | f-hockey | 42.00 | female | Caucasian | 22.00 | intercollegi | 1.00 |
| 54 | track | 47.00 | male | African Am | 23.00 | intercollegi | 1.00 |
| 55 | track | 32.00 | female | Caucasian | 9.00 | intercollegi | 1.00 |
| 56 | track | 75.00 | male | Caucasian | 40.00 | intercollegi | 2.00 |
| 57 | volleyba | 30.00 | female | Caucasian | 7.00 | intercollegi | 2.00 |
| 58 | track | 25.00 | male | Caucasian | 3.00 | intercollegi | 2.00 |
| 59 | basketba | 22.00 | female | Caucasian | 1.00 | intercollegi | 1.00 |
| 60 | basketba | 25.00 | male | African Am | 2.00 | interschola | 1.00 |
| 61 | gymnasti | 24.00 | male | Caucasian | 2.00 | intercollegi | 1.00 |
| 62 | f-hockey | 32.00 | female | Caucasian | 8.00 | intercollegi | 1.00 |
| 63 | basketba | 48.00 | female | Hispanic/L | 22.00 | intercollegi | 1.00 |
| 64 | soccer | 38.00 | male | Caucasian | 18.00 | intercollegi | 1.00 |
| 65 | basketba | 34.00 | female | African Am | 7.00 | intercollegi | 1.00 |
| 66 | track | 27.00 | female | Caucasian | 5.00 | intercollegi | 2.00 |
| 67 | track | 28.00 | male | African Am | 6.00 | intercollegi | 1.00 |
| 68 | crew | 33.00 | male | Caucasian | 16.00 | intercollegi | 1.00 |
| 69 | softball | 40.00 | female | Caucasian | 15.00 | intercollegi | 1.00 |
| 70 | basketba | 28.00 | female | Caucasian | 6.00 | intercollegi | 1.00 |
| 71 | softball | 30.00 | female | Asian Am. | 10.00 | intercollegi | 1.00 |
| 72 | basketba | 54.00 | female | Caucasian | 32.00 | intercollegi | 1.00 |
| 73 | baseball | 33.00 | male | Caucasian | 7.00 | interschola | 1.00 |
| 74 | volleyba | 33.00 | male | Caucasian | 11.00 | interschola | 2.00 |
| 75 | diving | 41.00 | male | Caucasian | 25.00 | intercollegi | 1.00 |
| 76 | soccer | 55.00 | male | Caucasian | 29.00 | intercollegi | 1.00 |

| | sptcch1 | sexof1 | cchposit | doctor | paydoc | trainer | cprfa |
|---|---|---|---|---|---|---|---|
| 39 | track | female&m | assistant c | no | no | yes | yes |
| 40 | basketba | female | assistant c | yes | yes | yes | yes |
| 41 | basketba | male | head coac | yes | yes | yes | yes |
| 42 | gymnasti | female | assistant c | yes | yes | yes | yes |
| 43 | golf | male | head coac | yes | yes | yes | yes |
| 44 | crew | female | head coac | yes | yes | yes | yes |
| 45 | track | . | assistant c | yes | yes | yes | no |
| 46 | volleyba | female | assistant c | yes | yes | yes | yes |
| 47 | f-hockey | female | assistant c | yes | yes | yes | yes |
| 48 | swimming | female&m | head coac | yes | yes | yes | yes |
| 49 | track | female&m | head coac | yes | yes | yes | no |
| 50 | lacrosse | male | head coac | yes | yes | yes | yes |
| 51 | golf | male | head coac | yes | yes | yes | yes |
| 52 | tennis | male | head coac | yes | yes | yes | yes |
| 53 | f-hockey | female | head coac | yes | yes | yes | yes |
| 54 | track | female&m | head coac | yes | yes | yes | yes |
| 55 | track | female&m | assistant c | yes | yes | yes | yes |
| 56 | track | female&m | head coac | yes | yes | yes | yes |
| 57 | basketba | female | assistant c | yes | yes | yes | yes |
| 58 | track | female&m | assistant c | no | no | yes | yes |
| 59 | golf | female | assistant c | yes | yes | yes | no |
| 60 | basketba | female | assistant c | yes | no | yes | yes |
| 61 | gymnasti | female | assistant c | yes | yes | yes | yes |
| 62 | f-hockey | female | head coac | yes | yes | yes | no |
| 63 | basketba | female | head coac | yes | yes | yes | yes |
| 64 | soccer | male | head coac | yes | yes | yes | no |
| 65 | basketba | female | assistant c | yes | yes | yes | yes |
| 66 | track | female | assistant c | yes | yes | yes | yes |
| 67 | track | female&m | assistant c | yes | no | yes | yes |
| 68 | crew | female | assistant c | yes | yes | yes | yes |
| 69 | softball | female | head coac | yes | yes | yes | yes |
| 70 | lacrosse | female | assistant c | yes | yes | yes | yes |
| 71 | softball | female | head coac | yes | yes | yes | yes |
| 72 | basketba | female | head coac | yes | yes | yes | yes |
| 73 | baseball | male | head coac | yes | no | yes | yes |
| 74 | track | female&m | head coac | yes | yes | yes | yes |
| 75 | diving | female&m | head coac | yes | yes | yes | yes |
| 76 | soccer | male | head coac | yes | yes | yes | yes |

| | needcprf | athwinj | injtype | ending | continue |
|---|---|---|---|---|---|
| 39 | no | yes | none | . | . |
| 40 | yes | no | none | . | . |
| 41 | no | yes | major | yes | yes |
| 42 | no | yes | minor | no | no |
| 43 | no | yes | minor | no | yes |
| 44 | no | yes | moderate | no | yes |
| 45 | yes | yes | major | no | yes |
| 46 | no | yes | moderate | no | yes |
| 47 | no | yes | moderate | no | no |
| 48 | no | yes | moderate | no | no |
| 49 | . | yes | moderate | no | yes |
| 50 | yes | yes | moderate | no | no |
| 51 | . | yes | moderate | yes | yes |
| 52 | yes | yes | moderate | no | no |
| 53 | no | yes | major | no | yes |
| 54 | no | yes | moderate | no | no |
| 55 | yes | yes | major | no | yes |
| 56 | no | yes | major | no | no |
| 57 | no | yes | major | no | no |
| 58 | yes | yes | major | no | yes |
| 59 | no | yes | minor | no | yes |
| 60 | yes | yes | none | . | . |
| 61 | no | yes | major | no | yes |
| 62 | . | yes | major | yes | yes |
| 63 | no | yes | major | no | no |
| 64 | no | yes | moderate | no | no |
| 65 | yes | yes | moderate | no | no |
| 66 | yes | yes | major | no | no |
| 67 | yes | no | minor | no | no |
| 68 | no | yes | moderate | no | yes |
| 69 | no | yes | major | no | no |
| 70 | yes | yes | moderate | no | yes |
| 71 | no | yes | minor | no | no |
| 72 | no | yes | moderate | no | no |
| 73 | yes | yes | moderate | no | yes |
| 74 | yes | yes | moderate | no | yes |
| 75 | no | no | moderate | no | yes |
| 76 | no | yes | major | no | no |

| | subject | situatio | cdsorder | iri1 | iri2 | iri3 | iri4 |
|---|---|---|---|---|---|---|---|
| 77 | 377 | CC | succ/fail | 4.00 | 4.00 | 3.00 | 2.00 |
| 78 | 378 | CC | succ/fail | 1.00 | 2.00 | 3.00 | 3.00 |
| 79 | 379 | CC | succ/fail | 2.00 | 3.00 | 3.00 | 3.00 |
| 80 | 380 | CC | succ/fail | 1.00 | 1.00 | 1.00 | 1.00 |
| 81 | 381 | CC | succ/fail | 3.00 | 4.00 | 1.00 | 3.00 |
| 82 | 382 | CC | succ/fail | .00 | 4.00 | 3.00 | 1.00 |
| 83 | 383 | CC | succ/fail | 4.00 | 2.00 | 2.00 | 3.00 |
| 84 | 384 | CC | succ/fail | 4.00 | 3.00 | 3.00 | 4.00 |
| 85 | 385 | CC | succ/fail | 3.00 | 3.00 | 4.00 | 3.00 |
| 86 | 386 | CC | succ/fail | 2.00 | 2.00 | 4.00 | 3.00 |
| 87 | 387 | CC | succ/fail | 2.00 | 3.00 | 2.00 | 1.00 |
| 88 | 388 | CC | succ/fail | 1.00 | 3.00 | 3.00 | 3.00 |
| 89 | 389 | CC | succ/fail | 2.00 | 1.00 | 2.00 | 2.00 |
| 90 | 390 | CA | fail/succ | 1.00 | 2.00 | 2.00 | 2.00 |
| 91 | 391 | CA | succ/fail | 1.00 | 2.00 | 2.00 | 2.00 |
| 92 | 392 | CA | succ/fail | 2.00 | 1.00 | 4.00 | 3.00 |
| 93 | 393 | CA | succ/fail | .00 | 4.00 | 4.00 | 2.00 |
| 94 | 394 | CC | fail/succ | .00 | 2.00 | 2.00 | 3.00 |
| 95 | 395 | CC | fail/succ | 1.00 | 3.00 | 2.00 | 3.00 |
| 96 | 396 | CC | fail/succ | 4.00 | 3.00 | 4.00 | .00 |
| 97 | 397 | CC | fail/succ | 1.00 | 2.00 | 4.00 | 4.00 |
| 98 | 398 | CC | succ/fail | 2.00 | 2.00 | 4.00 | 3.00 |
| 99 | 399 | CC | succ/fail | 1.00 | 3.00 | 2.00 | 4.00 |
| 100 | 400 | CC | succ/fail | 2.00 | 4.00 | 3.00 | 2.00 |
| 101 | 401 | CA | fail/succ | 3.00 | 2.00 | 4.00 | 3.00 |
| 102 | 402 | CA | fail/succ | 1.00 | 3.00 | 4.00 | 1.00 |
| 103 | 403 | CA | fail/succ | 1.00 | 4.00 | 3.00 | 2.00 |
| 104 | 404 | CA | fail/succ | 3.00 | 4.00 | 1.00 | 2.00 |
| 105 | 405 | CA | fail/succ | 2.00 | 3.00 | 2.00 | 3.00 |
| 106 | 406 | CA | fail/succ | 1.00 | 2.00 | 3.00 | 3.00 |
| 107 | 407 | CA | succ/fail | .00 | 3.00 | 4.00 | 4.00 |
| 108 | 408 | CA | succ/fail | 2.00 | 3.00 | 3.00 | 4.00 |
| 109 | 409 | CA | succ/fail | .00 | 4.00 | 4.00 | 4.00 |
| 110 | 410 | CA | succ/fail | 2.00 | 4.00 | 3.00 | 3.00 |
| 111 | 411 | CA | succ/fail | 1.00 | 2.00 | 3.00 | 1.00 |
| 112 | 412 | CC | fail/succ | 2.00 | 3.00 | 3.00 | 4.00 |
| 113 | 413 | CC | fail/succ | 1.00 | 2.00 | 1.00 | 1.00 |
| 114 | 414 | CC | succ/fail | 1.00 | 3.00 | 3.00 | 2.00 |

| | iri5 | iri6 | iri7 | iri8 | iri9 | iri10 | iri11 |
|---|---|---|---|---|---|---|---|
| 77 | 1.00 | 1.00 | 3.00 | 3.00 | 4.00 | 1.00 | 2.00 |
| 78 | .00 | 2.00 | 2.00 | 3.00 | 3.00 | 2.00 | 3.00 |
| 79 | 2.00 | 3.00 | 2.00 | 4.00 | 3.00 | 3.00 | 2.00 |
| 80 | 1.00 | 1.00 | .00 | 2.00 | 3.00 | .00 | 3.00 |
| 81 | 3.00 | 1.00 | 1.00 | 2.00 | 4.00 | 1.00 | 3.00 |
| 82 | 2.00 | .00 | 2.00 | 4.00 | 3.00 | .00 | 2.00 |
| 83 | 2.00 | 1.00 | 2.00 | 3.00 | 3.00 | 3.00 | 4.00 |
| 84 | 3.00 | 2.00 | 4.00 | 3.00 | 4.00 | 3.00 | 3.00 |
| 85 | .00 | 2.00 | 4.00 | 4.00 | 4.00 | .00 | 4.00 |
| 86 | 2.00 | .00 | .00 | 4.00 | 3.00 | .00 | 4.00 |
| 87 | 4.00 | 2.00 | 1.00 | 4.00 | 4.00 | 2.00 | 3.00 |
| 88 | 3.00 | 2.00 | 2.00 | 4.00 | 4.00 | 3.00 | 4.00 |
| 89 | 1.00 | 1.00 | 2.00 | 2.00 | 3.00 | 1.00 | 2.00 |
| 90 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 | 3.00 | 3.00 |
| 91 | 1.00 | 1.00 | 1.00 | 3.00 | 2.00 | 2.00 | 2.00 |
| 92 | 1.00 | 1.00 | 3.00 | 4.00 | 4.00 | 3.00 | 2.00 |
| 93 | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 | .00 | 3.00 |
| 94 | 2.00 | 1.00 | 2.00 | 1.00 | 3.00 | 2.00 | 2.00 |
| 95 | 3.00 | 4.00 | 2.00 | 2.00 | 4.00 | 1.00 | 2.00 |
| 96 | .00 | 2.00 | .00 | 4.00 | 2.00 | 2.00 | 2.00 |
| 97 | 2.00 | .00 | 2.00 | 4.00 | 4.00 | 3.00 | 3.00 |
| 98 | .00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| 99 | .00 | 1.00 | 2.00 | 3.00 | 4.00 | 2.00 | 3.00 |
| 100 | .00 | 2.00 | 4.00 | 4.00 | 4.00 | 3.00 | 3.00 |
| 101 | 3.00 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| 102 | 3.00 | .00 | 2.00 | 3.00 | 3.00 | .00 | 4.00 |
| 103 | 2.00 | 1.00 | 2.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| 104 | 4.00 | 2.00 | 1.00 | 3.00 | 3.00 | 3.00 | 2.00 |
| 105 | 2.00 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 3.00 |
| 106 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 107 | 1.00 | 1.00 | 1.00 | 3.00 | 3.00 | 2.00 | 3.00 |
| 108 | 3.00 | 1.00 | 3.00 | 3.00 | 4.00 | 1.00 | 3.00 |
| 109 | 4.00 | .00 | 2.00 | 3.00 | 4.00 | .00 | 4.00 |
| 110 | 4.00 | 1.00 | 3.00 | 4.00 | 4.00 | 4.00 | 3.00 |
| 111 | .00 | .00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 |
| 112 | 3.00 | 3.00 | 3.00 | 4.00 | 4.00 | 1.00 | 4.00 |
| 113 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 | 3.00 | 3.00 |
| 114 | .00 | 2.00 | 3.00 | 4.00 | 4.00 | 1.00 | 3.00 |

| | iri12 | iri13 | iri14 | iri15 | iri16 | iri17 | iri18 |
|---|---|---|---|---|---|---|---|
| 77 | 1.00 | 2.00 | 2.00 | 3.00 | 3.00 | 1.00 | 3.00 |
| 78 | 2.00 | 1.00 | 2.00 | 3.00 | 1.00 | 1.00 | 2.00 |
| 79 | 2.00 | 1.00 | 2.00 | 3.00 | 2.00 | 3.00 | 3.00 |
| 80 | 1.00 | 1.00 | 3.00 | 1.00 | .00 | .00 | 1.00 |
| 81 | 3.00 | 1.00 | 2.00 | 3.00 | 2.00 | 1.00 | 3.00 |
| 82 | 3.00 | .00 | 2.00 | 3.00 | .00 | .00 | 4.00 |
| 83 | .00 | .00 | 1.00 | 3.00 | 1.00 | 1.00 | 4.00 |
| 84 | 4.00 | 1.00 | 3.00 | 2.00 | 2.00 | 2.00 | 4.00 |
| 85 | 4.00 | .00 | 4.00 | 4.00 | .00 | .00 | 4.00 |
| 86 | 4.00 | .00 | 2.00 | 4.00 | .00 | .00 | 4.00 |
| 87 | 3.00 | 1.00 | 2.00 | 2.00 | 3.00 | 2.00 | 2.00 |
| 88 | 3.00 | 2.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| 89 | .00 | .00 | 1.00 | .00 | .00 | 1.00 | 2.00 |
| 90 | 3.00 | 2.00 | 3.00 | 2.00 | 3.00 | 3.00 | 3.00 |
| 91 | 1.00 | 1.00 | 1.00 | 3.00 | 1.00 | 2.00 | 2.00 |
| 92 | 3.00 | .00 | 2.00 | 2.00 | 1.00 | 2.00 | 4.00 |
| 93 | 3.00 | .00 | 4.00 | 3.00 | 2.00 | 2.00 | 4.00 |
| 94 | 3.00 | 2.00 | 2.00 | .00 | .00 | 2.00 | 3.00 |
| 95 | 3.00 | .00 | 3.00 | 1.00 | 2.00 | .00 | 4.00 |
| 96 | 4.00 | 1.00 | 3.00 | 2.00 | .00 | 3.00 | 4.00 |
| 97 | 1.00 | .00 | 2.00 | 4.00 | .00 | .00 | 4.00 |
| 98 | 2.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 | 3.00 |
| 99 | 2.00 | 1.00 | 3.00 | 1.00 | 1.00 | 2.00 | 3.00 |
| 100 | 3.00 | .00 | 4.00 | 2.00 | .00 | 2.00 | 4.00 |
| 101 | 4.00 | 1.00 | 4.00 | 3.00 | 2.00 | 1.00 | 3.00 |
| 102 | 4.00 | .00 | 3.00 | 3.00 | 1.00 | 2.00 | 4.00 |
| 103 | 2.00 | 1.00 | 2.00 | .00 | 1.00 | 1.00 | 2.00 |
| 104 | 3.00 | 2.00 | 2.00 | 1.00 | 4.00 | 2.00 | 2.00 |
| 105 | 2.00 | 1.00 | 3.00 | 1.00 | 2.00 | 1.00 | 3.00 |
| 106 | 2.00 | 1.00 | 3.00 | 2.00 | 2.00 | 2.00 | 3.00 |
| 107 | 2.00 | .00 | 4.00 | 2.00 | 1.00 | 1.00 | 4.00 |
| 108 | 3.00 | 2.00 | 4.00 | 3.00 | 3.00 | 1.00 | 4.00 |
| 109 | 4.00 | 4.00 | 4.00 | 4.00 | 2.00 | 3.00 | 4.00 |
| 110 | 4.00 | 1.00 | 4.00 | 3.00 | 2.00 | 3.00 | 3.00 |
| 111 | 4.00 | .00 | 3.00 | 2.00 | 2.00 | 1.00 | 3.00 |
| 112 | 3.00 | .00 | 4.00 | 2.00 | 3.00 | 3.00 | 4.00 |
| 113 | 3.00 | 2.00 | 2.00 | 3.00 | 1.00 | 2.00 | 2.00 |
| 114 | 3.00 | 2.00 | 3.00 | 2.00 | 1.00 | 1.00 | 4.00 |

| | iri19 | iri20 | iri21 | iri22 | iri23 | iri24 | iri25 |
|---|---|---|---|---|---|---|---|
| 77 | 1.00 | 4.00 | 3.00 | 4.00 | 4.00 | 1.00 | 3.00 |
| 78 | 1.00 | 2.00 | 3.00 | 4.00 | 2.00 | 1.00 | 3.00 |
| 79 | 1.00 | 3.00 | 4.00 | 4.00 | 2.00 | 2.00 | 2.00 |
| 80 | 3.00 | 2.00 | 1.00 | 1.00 | .00 | 4.00 | 2.00 |
| 81 | .00 | 3.00 | 3.00 | 3.00 | 2.00 | .00 | 1.00 |
| 82 | .00 | 4.00 | 4.00 | 2.00 | 1.00 | .00 | 1.00 |
| 83 | 1.00 | 2.00 | 4.00 | 1.00 | 1.00 | .00 | 3.00 |
| 84 | 2.00 | 3.00 | 3.00 | 1.00 | 4.00 | .00 | 2.00 |
| 85 | 1.00 | 4.00 | 4.00 | 3.00 | .00 | .00 | 3.00 |
| 86 | .00 | 4.00 | 3.00 | 2.00 | 2.00 | .00 | 2.00 |
| 87 | 2.00 | 4.00 | 3.00 | 3.00 | 3.00 | 2.00 | 3.00 |
| 88 | 1.00 | 3.00 | 4.00 | 4.00 | 2.00 | 1.00 | 4.00 |
| 89 | 1.00 | 2.00 | 1.00 | 2.00 | 1.00 | 1.00 | .00 |
| 90 | 2.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 |
| 91 | 1.00 | 3.00 | 3.00 | 2.00 | 1.00 | 1.00 | 2.00 |
| 92 | .00 | 2.00 | 4.00 | 1.00 | 2.00 | .00 | 2.00 |
| 93 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | .00 | 2.00 |
| 94 | .00 | 2.00 | 2.00 | 3.00 | 2.00 | .00 | 2.00 |
| 95 | 2.00 | 3.00 | 2.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 96 | 1.00 | 3.00 | 2.00 | 4.00 | .00 | 3.00 | 1.00 |
| 97 | .00 | 4.00 | 4.00 | 4.00 | 2.00 | .00 | 2.00 |
| 98 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 3.00 | 2.00 |
| 99 | 2.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 2.00 |
| 100 | 1.00 | 3.00 | 2.00 | 4.00 | 2.00 | 1.00 | 2.00 |
| 101 | 1.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 1.00 |
| 102 | 1.00 | 3.00 | 3.00 | 3.00 | 3.00 | 1.00 | 3.00 |
| 103 | 1.00 | 2.00 | .00 | 2.00 | 1.00 | 1.00 | 1.00 |
| 104 | 1.00 | 3.00 | 3.00 | 4.00 | 3.00 | 2.00 | 2.00 |
| 105 | 1.00 | 3.00 | 2.00 | 2.00 | 2.00 | 1.00 | 3.00 |
| 106 | 1.00 | 3.00 | 3.00 | 2.00 | 2.00 | 1.00 | 2.00 |
| 107 | .00 | 3.00 | 4.00 | 3.00 | 3.00 | .00 | 2.00 |
| 108 | 2.00 | 3.00 | 4.00 | 3.00 | 3.00 | 1.00 | 3.00 |
| 109 | .00 | 4.00 | 4.00 | 4.00 | 3.00 | .00 | 3.00 |
| 110 | 1.00 | 4.00 | 3.00 | 3.00 | 3.00 | .00 | 3.00 |
| 111 | .00 | 2.00 | 3.00 | 2.00 | 2.00 | .00 | 2.00 |
| 112 | .00 | 4.00 | 3.00 | 4.00 | 3.00 | 1.00 | 3.00 |
| 113 | 3.00 | 2.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 |
| 114 | 2.00 | 2.00 | 3.00 | 3.00 | 2.00 | 1.00 | 3.00 |

| | iri26 | iri27 | iri28 | injseves | behavios | outcomes | cds1s |
|---|---|---|---|---|---|---|---|
| 77 | 3.00 | 1.00 | 3.00 | minor | compliant | success | 1.00 |
| 78 | 2.00 | 1.00 | 1.00 | major | compliant | success | 4.00 |
| 79 | 2.00 | 1.00 | 3.00 | major | compliant | success | 1.00 |
| 80 | .00 | 1.00 | 1.00 | major | compliant | success | 7.00 |
| 81 | 2.00 | .00 | 1.00 | moderate | compliant | success | 4.00 |
| 82 | 1.00 | .00 | 2.00 | major | compliant | success | 9.00 |
| 83 | 3.00 | .00 | 2.00 | major | compliant | success | 3.00 |
| 84 | 4.00 | .00 | 3.00 | moderate | compliant | success | 6.00 |
| 85 | .00 | .00 | 3.00 | major | compliant | success | 1.00 |
| 86 | 2.00 | .00 | 2.00 | major | compliant | success | 1.00 |
| 87 | 3.00 | 2.00 | 3.00 | major | non-compli | success | 8.00 |
| 88 | 3.00 | 1.00 | 4.00 | major | compliant | success | 1.00 |
| 89 | 1.00 | .00 | 1.00 | moderate | compliant | success | 5.00 |
| 90 | 2.00 | 1.00 | 2.00 | major | compliant | success | 6.00 |
| 91 | 1.00 | 1.00 | 2.00 | moderate | compliant | success | 9.00 |
| 92 | 3.00 | .00 | 4.00 | major | compliant | success | 1.00 |
| 93 | 3.00 | 1.00 | 3.00 | moderate | compliant | success | 5.00 |
| 94 | 2.00 | .00 | 2.00 | major | compliant | success | 1.00 |
| 95 | 2.00 | .00 | 2.00 | major | compliant | success | 1.00 |
| 96 | 1.00 | .00 | 3.00 | major | compliant | success | 1.00 |
| 97 | 3.00 | .00 | 3.00 | major | compliant | success | 2.00 |
| 98 | 1.00 | 1.00 | 2.00 | moderate | compliant | success | 6.00 |
| 99 | 1.00 | 1.00 | 3.00 | major | compliant | success | 5.00 |
| 100 | 2.00 | 1.00 | 4.00 | moderate | compliant | success | 6.00 |
| 101 | 1.00 | 2.00 | .00 | major | compliant | success | 5.00 |
| 102 | 2.00 | 1.00 | 3.00 | major | compliant | success | 7.00 |
| 103 | 1.00 | 1.00 | 1.00 | major | compliant | success | 1.00 |
| 104 | 3.00 | 2.00 | 2.00 | moderate | compliant | success | 8.00 |
| 105 | 2.00 | 1.00 | 2.00 | major | compliant | success | 8.00 |
| 106 | 2.00 | 1.00 | 2.00 | major | compliant | success | 3.00 |
| 107 | 2.00 | .00 | 3.00 | major | compliant | success | 8.00 |
| 108 | 3.00 | 1.00 | 3.00 | major | compliant | success | 1.00 |
| 109 | 4.00 | .00 | 1.00 | moderate | compliant | success | 9.00 |
| 110 | 3.00 | .00 | 3.00 | moderate | compliant | success | 9.00 |
| 111 | 3.00 | .00 | 2.00 | major | compliant | success | 9.00 |
| 112 | 3.00 | .00 | 3.00 | moderate | compliant | success | 7.00 |
| 113 | 3.00 | 2.00 | 3.00 | major | compliant | success | 3.00 |
| 114 | 2.00 | 1.00 | 4.00 | major | compliant | success | 1.00 |

| | cds2s | cds3s | cds4s | cds5s | cds6s | cds7s | cds8s |
|---|---|---|---|---|---|---|---|
| 77 | 2.00 | 3.00 | 1.00 | 9.00 | 1.00 | 9.00 | 9.00 |
| 78 | 6.00 | 5.00 | 6.00 | 7.00 | 4.00 | 6.00 | 7.00 |
| 79 | 7.00 | 5.00 | 7.00 | 5.00 | 5.00 | 7.00 | 5.00 |
| 80 | 7.00 | 5.00 | 4.00 | 9.00 | 3.00 | 3.00 | 9.00 |
| 81 | 5.00 | 3.00 | 5.00 | 6.00 | 5.00 | 7.00 | 6.00 |
| 82 | 9.00 | 9.00 | 9.00 | 8.00 | 9.00 | 1.00 | 9.00 |
| 83 | 5.00 | 3.00 | 7.00 | 8.00 | 4.00 | 1.00 | 1.00 |
| 84 | 1.00 | 4.00 | 1.00 | 1.00 | 1.00 | 3.00 | 1.00 |
| 85 | 6.00 | 5.00 | 7.00 | 9.00 | 5.00 | 7.00 | 8.00 |
| 86 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 87 | 5.00 | 5.00 | 5.00 | 9.00 | 8.00 | 8.00 | 8.00 |
| 88 | 3.00 | 5.00 | 7.00 | 5.00 | 3.00 | 5.00 | 5.00 |
| 89 | 5.00 | 7.00 | 6.00 | 6.00 | 4.00 | 4.00 | 6.00 |
| 90 | 5.00 | 7.00 | 7.00 | 6.00 | 7.00 | 8.00 | 5.00 |
| 91 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| 92 | 9.00 | 1.00 | 9.00 | 7.00 | 3.00 | 5.00 | 5.00 |
| 93 | 5.00 | 8.00 | 7.00 | 7.00 | 7.00 | 6.00 | 4.00 |
| 94 | 1.00 | 5.00 | 1.00 | 9.00 | 1.00 | 5.00 | 9.00 |
| 95 | 1.00 | 1.00 | 1.00 | 9.00 | 1.00 | 3.00 | 8.00 |
| 96 | 1.00 | 5.00 | 8.00 | 9.00 | 1.00 | 3.00 | 9.00 |
| 97 | 2.00 | 7.00 | 2.00 | 8.00 | 2.00 | 8.00 | 8.00 |
| 98 | 3.00 | 5.00 | 6.00 | 4.00 | 5.00 | 4.00 | 6.00 |
| 99 | 3.00 | 5.00 | 3.00 | 2.00 | 7.00 | 8.00 | 3.00 |
| 100 | 9.00 | 4.00 | 7.00 | 6.00 | 6.00 | 6.00 | 5.00 |
| 101 | 7.00 | 3.00 | 6.00 | 4.00 | 6.00 | 5.00 | 5.00 |
| 102 | 7.00 | 7.00 | 7.00 | 4.00 | 7.00 | 7.00 | 4.00 |
| 103 | 1.00 | 9.00 | 1.00 | 9.00 | 1.00 | 9.00 | 9.00 |
| 104 | 8.00 | 7.00 | 8.00 | 3.00 | 8.00 | 7.00 | 2.00 |
| 105 | 8.00 | 2.00 | 6.00 | 7.00 | 7.00 | 5.00 | 5.00 |
| 106 | 6.00 | 2.00 | 6.00 | 5.00 | 7.00 | 6.00 | 3.00 |
| 107 | 9.00 | 8.00 | 9.00 | 7.00 | 8.00 | 8.00 | 7.00 |
| 108 | 9.00 | 3.00 | 8.00 | 8.00 | 2.00 | 7.00 | 8.00 |
| 109 | 9.00 | 1.00 | 9.00 | 4.00 | 9.00 | 9.00 | 1.00 |
| 110 | 9.00 | 9.00 | 9.00 | 3.00 | 9.00 | 9.00 | 3.00 |
| 111 | 9.00 | 8.00 | 9.00 | 1.00 | 9.00 | 9.00 | 1.00 |
| 112 | 3.00 | 5.00 | 3.00 | 7.00 | 5.00 | 5.00 | 7.00 |
| 113 | 3.00 | 6.00 | 4.00 | 8.00 | 2.00 | 7.00 | 6.00 |
| 114 | 1.00 | 5.00 | 1.00 | 9.00 | 1.00 | 1.00 | 9.00 |

| | cds9s | cds10s | cds11s | cds12s | responss | expects | ptes |
|---|---|---|---|---|---|---|---|
| 77 | 1.00 | 1.00 | 1.00 | 9.00 | the athlete | 9.00 | 9.00 |
| 78 | 5.00 | 6.00 | 5.00 | 7.00 | the athlete | 7.00 | 8.00 |
| 79 | 2.00 | 7.00 | 1.00 | 3.00 | the athlete | 9.00 | 9.00 |
| 80 | 7.00 | 4.00 | 1.00 | 9.00 | the athlete | 9.00 | 7.00 |
| 81 | 5.00 | 6.00 | 3.00 | 7.00 | the athlete | 9.00 | 9.00 |
| 82 | 8.00 | 9.00 | 3.00 | 8.00 | the doctor | 9.00 | 9.00 |
| 83 | 4.00 | 5.00 | 9.00 | 9.00 | the athlete | 7.00 | 9.00 |
| 84 | 1.00 | 2.00 | 1.00 | 3.00 | the athlete | 7.00 | 5.00 |
| 85 | 1.00 | 5.00 | 1.00 | 9.00 | the athlete | 9.00 | 9.00 |
| 86 | 1.00 | 1.00 | 1.00 | 1.00 | the athlete | 9.00 | . |
| 87 | 8.00 | 5.00 | 3.00 | 8.00 | me-the coa | 8.00 | 8.00 |
| 88 | 6.00 | 4.00 | 3.00 | 7.00 | the AT/PT | 9.00 | 8.00 |
| 89 | 6.00 | 3.00 | 3.00 | 2.00 | the AT/PT | 6.00 | 7.00 |
| 90 | 7.00 | 7.00 | 5.00 | 5.00 | the AT/PT | 7.00 | 7.00 |
| 91 | 9.00 | 7.00 | 5.00 | 7.00 | the AT/PT | 9.00 | 7.00 |
| 92 | 5.00 | 9.00 | 3.00 | 6.00 | the AT/PT | 7.00 | 7.00 |
| 93 | 5.00 | 5.00 | 2.00 | 5.00 | the doctor | 8.00 | .00 |
| 94 | 1.00 | 5.00 | 1.00 | 9.00 | the athlete | 9.00 | 9.00 |
| 95 | 1.00 | 5.00 | 1.00 | 7.00 | the athlete | 7.00 | 5.00 |
| 96 | 1.00 | 6.00 | 3.00 | 9.00 | the AT/PT | 9.00 | 6.00 |
| 97 | 2.00 | 2.00 | 8.00 | 8.00 | the AT/PT | 8.00 | 9.00 |
| 98 | 5.00 | 5.00 | 4.00 | 5.00 | me-the coa | 6.00 | 7.00 |
| 99 | 7.00 | 3.00 | 2.00 | 3.00 | the athlete | 5.00 | 6.00 |
| 100 | 6.00 | 6.00 | 4.00 | 7.00 | the athlete | 4.00 | 9.00 |
| 101 | 5.00 | 5.00 | 5.00 | 5.00 | me-the athl | 8.00 | 7.00 |
| 102 | 7.00 | 7.00 | 4.00 | 4.00 | me-the athl | 8.00 | 7.00 |
| 103 | 1.00 | 1.00 | 9.00 | 9.00 | the doctor | 4.00 | .00 |
| 104 | 8.00 | 7.00 | 6.00 | 3.00 | me-the athl | 8.00 | 8.00 |
| 105 | 8.00 | 8.00 | 3.00 | 5.00 | me-the athl | 7.00 | 7.00 |
| 106 | 7.00 | 5.00 | 7.00 | 6.00 | me-the athl | 5.00 | 4.00 |
| 107 | 8.00 | 7.00 | 7.00 | 7.00 | me-the athl | 8.00 | 8.00 |
| 108 | 8.00 | 8.00 | 2.00 | 8.00 | me-the athl | 8.00 | 5.00 |
| 109 | 9.00 | 9.00 | 1.00 | 1.00 | me-the athl | 9.00 | 2.00 |
| 110 | 9.00 | 9.00 | 6.00 | 3.00 | me-the athl | 8.00 | 9.00 |
| 111 | 9.00 | 9.00 | 1.00 | 1.00 | me-the athl | 9.00 | 9.00 |
| 112 | 3.00 | 4.00 | 6.00 | 7.00 | the AT/PT | 7.00 | 7.00 |
| 113 | 2.00 | 6.00 | 4.00 | 5.00 | the athlete | 8.00 | 6.00 |
| 114 | 1.00 | 1.00 | 1.00 | 9.00 | the AT/PT | 5.00 | 9.00 |

| | athsexs | athspts | injsevef | behaviof | outcomef | cds1f | cds2f |
|---|---|---|---|---|---|---|---|
| 77 | female | track | moderate | non-compli | failure | 2.00 | 2.00 |
| 78 | male | football | major | compliant | failure | 3.00 | 6.00 |
| 79 | female | gymnasti | major | compliant | failure | 1.00 | 9.00 |
| 80 | female | basketba | moderate | non-compli | failure | 3.00 | 1.00 |
| 81 | female | lacrosse | major | compliant | failure | 7.00 | 7.00 |
| 82 | female | basketba | moderate | compliant | failure | 9.00 | 9.00 |
| 83 | female | basketba | moderate | compliant | success | 4.00 | 3.00 |
| 84 | female | softball | minor | compliant | failure | 2.00 | 1.00 |
| 85 | female | softball | major | compliant | success | 1.00 | 1.00 |
| 86 | female | tennis | major | . | . | . | . |
| 87 | female | track | moderate | compliant | failure | 1.00 | 1.00 |
| 88 | female | volleyba | moderate | non-compli | failure | 2.00 | 5.00 |
| 89 | female | soccer | major | non-compli | failure | 3.00 | 5.00 |
| 90 | . | basketba | major | compliant | failure | 7.00 | 5.00 |
| 91 | . | basketba | moderate | non-compli | failure | 9.00 | 7.00 |
| 92 | . | basketba | moderate | compliant | failure | 7.00 | 9.00 |
| 93 | . | track | moderate | compliant | failure | 1.00 | 1.00 |
| 94 | male | football | moderate | non-compli | failure | 1.00 | 5.00 |
| 95 | female | track | major | compliant | failure | 1.00 | 4.00 |
| 96 | female | basketba | major | . | failure | 1.00 | 4.00 |
| 97 | female | soccer | moderate | compliant | failure | 2.00 | 2.00 |
| 98 | female | volleyba | moderate | non-compli | failure | 5.00 | 7.00 |
| 99 | male | football | major | compliant | . | 5.00 | 6.00 |
| 100 | female | basketba | moderate | compliant | failure | 6.00 | 9.00 |
| 101 | . | volleyba | moderate | compliant | failure | 7.00 | 6.00 |
| 102 | . | football | major | compliant | failure | 7.00 | 7.00 |
| 103 | . | soccer | moderate | compliant | success | 5.00 | 1.00 |
| 104 | . | tennis | major | non-compli | failure | 8.00 | 8.00 |
| 105 | . | basketba | moderate | compliant | failure | 7.00 | 8.00 |
| 106 | . | xcountry | moderate | compliant | failure | 3.00 | 6.00 |
| 107 | . | basketba | major | non-compli | failure | 8.00 | 9.00 |
| 108 | . | xcountry | moderate | compliant | failure | 2.00 | 8.00 |
| 109 | . | track | major | non-compli | failure | 8.00 | 8.00 |
| 110 | . | softball | major | non-compli | failure | 8.00 | 9.00 |
| 111 | . | basketba | moderate | compliant | . | 3.00 | 7.00 |
| 112 | female | basketba | major | compliant | success | 6.00 | 3.00 |
| 113 | male | basketba | moderate | compliant | failure | 6.00 | 7.00 |
| 114 | male | basketba | major | non-compli | failure | 1.00 | 5.00 |

| | cds3f | cds4f | cds5f | cds6f | cds7f | cds8f | cds9f |
|---|---|---|---|---|---|---|---|
| 77 | 3.00 | 1.00 | 9.00 | 1.00 | 3.00 | 9.00 | 1.00 |
| 78 | 5.00 | 6.00 | 7.00 | 5.00 | 4.00 | 6.00 | 5.00 |
| 79 | 1.00 | 7.00 | 8.00 | 6.00 | 8.00 | 2.00 | 4.00 |
| 80 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 3.00 | 1.00 |
| 81 | 2.00 | 8.00 | 7.00 | 8.00 | 8.00 | 7.00 | 8.00 |
| 82 | 9.00 | 4.00 | 6.00 | 7.00 | 6.00 | 8.00 | 4.00 |
| 83 | 2.00 | 2.00 | 4.00 | 2.00 | 2.00 | 4.00 | 5.00 |
| 84 | 3.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 85 | 1.00 | 1.00 | 1.00 | 1.00 | 4.00 | 1.00 | 1.00 |
| 86 | . | . | . | . | . | . | . |
| 87 | 3.00 | 3.00 | 8.00 | 3.00 | 8.00 | 8.00 | 2.00 |
| 88 | 2.00 | 6.00 | 2.00 | 5.00 | 3.00 | 7.00 | 3.00 |
| 89 | 3.00 | 5.00 | 6.00 | 3.00 | 5.00 | 6.00 | 4.00 |
| 90 | 3.00 | 4.00 | 4.00 | 7.00 | 7.00 | 5.00 | 7.00 |
| 91 | 5.00 | 7.00 | 7.00 | 7.00 | 5.00 | 5.00 | 7.00 |
| 92 | 1.00 | 7.00 | 3.00 | 8.00 | 1.00 | 3.00 | 8.00 |
| 93 | 3.00 | 5.00 | 6.00 | 3.00 | 5.00 | 3.00 | 3.00 |
| 94 | 1.00 | 4.00 | 7.00 | 1.00 | 1.00 | 9.00 | 1.00 |
| 95 | 1.00 | 4.00 | 9.00 | 1.00 | 1.00 | 7.00 | 1.00 |
| 96 | 1.00 | 6.00 | 9.00 | 1.00 | 1.00 | 9.00 | 1.00 |
| 97 | 5.00 | 6.00 | 6.00 | 2.00 | 5.00 | 8.00 | 3.00 |
| 98 | 5.00 | 7.00 | 5.00 | 5.00 | 5.00 | 6.00 | 5.00 |
| 99 | 2.00 | 3.00 | 3.00 | 5.00 | 7.00 | 3.00 | 6.00 |
| 100 | 6.00 | 9.00 | 7.00 | 6.00 | 5.00 | 5.00 | 5.00 |
| 101 | 2.00 | 6.00 | 3.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| 102 | 5.00 | 7.00 | 5.00 | 7.00 | 4.00 | 4.00 | 5.00 |
| 103 | 1.00 | 2.00 | 2.00 | 2.00 | 7.00 | 7.00 | 3.00 |
| 104 | 7.00 | 8.00 | 3.00 | 8.00 | 7.00 | 2.00 | 8.00 |
| 105 | 3.00 | 7.00 | 5.00 | 8.00 | 5.00 | 5.00 | 5.00 |
| 106 | 2.00 | 6.00 | 5.00 | 7.00 | 6.00 | 3.00 | 7.00 |
| 107 | 8.00 | 9.00 | 1.00 | 9.00 | 7.00 | 1.00 | 9.00 |
| 108 | 2.00 | 9.00 | 8.00 | 3.00 | 8.00 | 7.00 | 7.00 |
| 109 | 2.00 | 8.00 | 2.00 | 8.00 | 2.00 | 2.00 | 8.00 |
| 110 | 5.00 | 9.00 | 9.00 | 9.00 | 3.00 | 1.00 | 9.00 |
| 111 | 1.00 | 9.00 | 1.00 | 9.00 | 9.00 | 3.00 | 9.00 |
| 112 | 3.00 | 4.00 | 5.00 | 4.00 | 4.00 | 3.00 | 6.00 |
| 113 | 3.00 | 2.00 | 4.00 | 3.00 | 4.00 | 5.00 | 6.00 |
| 114 | 1.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |

| | cds10f | cds11f | cds12f | responsf | expectf | ptef | athsexf |
|---|---|---|---|---|---|---|---|
| 77 | 1.00 | 1.00 | 9.00 | the athlete | 7.00 | 9.00 | male |
| 78 | 6.00 | 3.00 | 6.00 | the doctor | 4.00 | 8.00 | male |
| 79 | 8.00 | 1.00 | 5.00 | me-the coa | 6.00 | 9.00 | female |
| 80 | 1.00 | 1.00 | 3.00 | the athlete | 9.00 | 7.00 | female |
| 81 | 8.00 | 1.00 | 7.00 | me-the coa | .00 | 9.00 | female |
| 82 | 8.00 | 9.00 | 9.00 | other | 9.00 | 9.00 | female |
| 83 | 4.00 | 5.00 | 7.00 | the athlete | 5.00 | 9.00 | female |
| 84 | 5.00 | 2.00 | 4.00 | the athlete | 8.00 | 5.00 | female |
| 85 | 1.00 | 9.00 | 1.00 | other | .00 | 9.00 | female |
| 86 | . | . | . | . | . | . | . |
| 87 | 1.00 | 5.00 | 8.00 | the athlete | 8.00 | 8.00 | female |
| 88 | 3.00 | 3.00 | 6.00 | the athlete | 7.00 | 8.00 | female |
| 89 | 4.00 | 4.00 | 6.00 | the athlete | 6.00 | 8.00 | female |
| 90 | 6.00 | 3.00 | 3.00 | me-the athl | 6.00 | 8.00 | . |
| 91 | 7.00 | 5.00 | 7.00 | me-the athl | 5.00 | 9.00 | . |
| 92 | 9.00 | 1.00 | 3.00 | me-the athl | 5.00 | 7.00 | . |
| 93 | 6.00 | 5.00 | 5.00 | me-the athl | 4.00 | 8.00 | . |
| 94 | 5.00 | 3.00 | 7.00 | the athlete | 9.00 | 9.00 | male |
| 95 | 1.00 | 1.00 | 5.00 | the athlete | 3.00 | 8.00 | female |
| 96 | 6.00 | 5.00 | 7.00 | the AT/PT | 6.00 | 1.00 | male |
| 97 | 5.00 | 3.00 | 7.00 | the AT/PT | 5.00 | 7.00 | female |
| 98 | 5.00 | 3.00 | 4.00 | me-the coa | 6.00 | 7.00 | female |
| 99 | 2.00 | 2.00 | 3.00 | the athlete | 7.00 | 7.00 | male |
| 100 | 5.00 | 7.00 | 5.00 | the doctor | 5.00 | 9.00 | female |
| 101 | 5.00 | 5.00 | 5.00 | me-the athl | 6.00 | 5.00 | . |
| 102 | 7.00 | 3.00 | 3.00 | me-the athl | 3.00 | 7.00 | . |
| 103 | 6.00 | 2.00 | 4.00 | me-the athl | 7.00 | 6.00 | . |
| 104 | 8.00 | 4.00 | 3.00 | me-the athl | 6.00 | 7.00 | . |
| 105 | 7.00 | 2.00 | 6.00 | me-the athl | 6.00 | 7.00 | . |
| 106 | 5.00 | 7.00 | 6.00 | me-the athl | 5.00 | 4.00 | . |
| 107 | 9.00 | 7.00 | 1.00 | me-the athl | 3.00 | 9.00 | . |
| 108 | 8.00 | 2.00 | 8.00 | me-the athl | 2.00 | 4.00 | . |
| 109 | 2.00 | 2.00 | 2.00 | me-the athl | 2.00 | 8.00 | . |
| 110 | 9.00 | 1.00 | 3.00 | me-the athl | 3.00 | 9.00 | . |
| 111 | 9.00 | 1.00 | 5.00 | me-the athl | 9.00 | 9.00 | . |
| 112 | 4.00 | 4.00 | 3.00 | the athlete | 6.00 | 6.00 | female |
| 113 | 5.00 | 4.00 | 4.00 | the athlete | 7.00 | 2.00 | male |
| 114 | 5.00 | 5.00 | 5.00 | the doctor | 8.00 | 9.00 | male |

| | sptcch1 | sexof1 | cchposit | doctor | paydoc | trainer | cprfa |
|---|---|---|---|---|---|---|---|
| 77 | track | female&m | assistant c | yes | yes | yes | yes |
| 78 | football | male | assistant c | yes | yes | yes | yes |
| 79 | gymnasti | female | head coac | yes | yes | yes | yes |
| 80 | golf | female | head coac | yes | yes | yes | yes |
| 81 | lacrosse | female | assistant c | yes | yes | yes | yes |
| 82 | basketba | female | head coac | yes | yes | yes | yes |
| 83 | volleyba | female | assistant c | no | no | no | yes |
| 84 | softball | female | assistant c | yes | . | yes | yes |
| 85 | softball | female | assistant c | yes | yes | yes | yes |
| 86 | tennis | female | head coac | yes | yes | yes | yes |
| 87 | track | female | head coac | yes | yes | yes | yes |
| 88 | volleyba | female | head coac | yes | yes | yes | yes |
| 89 | soccer | female&m | head coac | no | no | no | yes |
| 90 | basketba | female | head coac | yes | no | yes | yes |
| 91 | softball | female | head coac | no | no | yes | yes |
| 92 | basketba | female | head coac | no | no | yes | yes |
| 93 | track | female | head coac | yes | no | yes | yes |
| 94 | football | male | head coac | no | no | yes | yes |
| 95 | track | female&m | head coac | yes | yes | yes | yes |
| 96 | baseball | male | head coac | no | no | yes | yes |
| 97 | soccer | female | head coac | no | no | yes | yes |
| 98 | volleyba | female | head coac | no | no | yes | yes |
| 99 | track | male | head coac | no | no | yes | yes |
| 100 | basketba | female | head coac | yes | yes | yes | yes |
| 101 | volleyba | female | head coac | yes | no | yes | yes |
| 102 | football | male | assistant c | yes | no | yes | yes |
| 103 | soccer | female&m | head coac | . | no | yes | yes |
| 104 | track | female&m | head coac | yes | yes | yes | yes |
| 105 | basketba | female&m | head coac | no | no | yes | yes |
| 106 | track | female | head coac | no | no | yes | yes |
| 107 | basketba | female&m | head coac | no | no | yes | yes |
| 108 | xcountry | female&m | head coac | yes | no | yes | no |
| 109 | volleyba | female | head coac | no | no | yes | yes |
| 110 | softball | female | assistant c | yes | yes | yes | yes |
| 111 | basketba | female | head coac | yes | yes | yes | yes |
| 112 | basketba | female | head coac | yes | no | yes | yes |
| 113 | basketba | male | head coac | yes | no | yes | yes |
| 114 | basketba | male | head coac | yes | no | yes | no |

| | sptcch1 | sexof1 | cchposit | doctor | paydoc | trainer | cprfa |
|---|---|---|---|---|---|---|---|
| 77 | track | female&m | assistant c | yes | yes | yes | yes |
| 78 | football | male | assistant c | yes | yes | yes | yes |
| 79 | gymnasti | female | head coac | yes | yes | yes | yes |
| 80 | golf | female | head coac | yes | yes | yes | yes |
| 81 | lacrosse | female | assistant c | yes | yes | yes | yes |
| 82 | basketba | female | head coac | yes | yes | yes | yes |
| 83 | volleyba | female | assistant c | no | no | no | yes |
| 84 | softball | female | assistant c | yes | . | yes | yes |
| 85 | softball | female | assistant c | yes | yes | yes | yes |
| 86 | tennis | female | head coac | yes | yes | yes | yes |
| 87 | track | female | head coac | yes | yes | yes | yes |
| 88 | volleyba | female | head coac | yes | yes | yes | yes |
| 89 | soccer | female&m | head coac | no | no | no | yes |
| 90 | basketba | female | head coac | yes | no | yes | yes |
| 91 | softball | female | head coac | no | no | yes | yes |
| 92 | basketba | female | head coac | no | no | yes | yes |
| 93 | track | female | head coac | yes | no | yes | yes |
| 94 | football | male | head coac | no | no | yes | yes |
| 95 | track | female&m | head coac | yes | yes | yes | yes |
| 96 | baseball | male | head coac | no | no | yes | yes |
| 97 | soccer | female | head coac | no | no | yes | yes |
| 98 | volleyba | female | head coac | no | no | yes | yes |
| 99 | track | male | head coac | no | no | yes | yes |
| 100 | basketba | female | head coac | yes | yes | yes | yes |
| 101 | volleyba | female | head coac | yes | no | yes | yes |
| 102 | football | male | assistant c | yes | no | yes | yes |
| 103 | soccer | female&m | head coac | . | no | yes | yes |
| 104 | track | female&m | head coac | yes | yes | yes | yes |
| 105 | basketba | female&m | head coac | no | no | yes | yes |
| 106 | track | female | head coac | no | no | yes | yes |
| 107 | basketba | female&m | head coac | no | no | yes | yes |
| 108 | xcountry | female&m | head coac | yes | no | yes | no |
| 109 | volleyba | female | head coac | no | no | yes | yes |
| 110 | softball | female | assistant c | yes | yes | yes | yes |
| 111 | basketba | female | head coac | yes | yes | yes | yes |
| 112 | basketba | female | head coac | yes | no | yes | yes |
| 113 | basketba | male | head coac | yes | no | yes | yes |
| 114 | basketba | male | head coac | yes | no | yes | no |

| | needcprf | athwinj | injtype | ending | continue |
|---|---|---|---|---|---|
| 77 | yes | yes | major | no | yes |
| 78 | yes | yes | moderate | no | no |
| 79 | yes | yes | none | . | . |
| 80 | no | yes | minor | no | no |
| 81 | yes | yes | moderate | no | no |
| 82 | yes | yes | major | yes | yes |
| 83 | yes | yes | moderate | no | yes |
| 84 | no | yes | major | no | yes |
| 85 | yes | yes | major | no | yes |
| 86 | yes | yes | moderate | no | no |
| 87 | no | yes | major | no | yes |
| 88 | no | yes | moderate | no | no |
| 89 | yes | yes | major | yes | yes |
| 90 | yes | no | minor | no | no |
| 91 | . | no | moderate | no | no |
| 92 | no | yes | moderate | no | no |
| 93 | yes | yes | moderate | no | no |
| 94 | yes | yes | moderate | no | no |
| 95 | yes | yes | moderate | no | no |
| 96 | no | yes | minor | no | no |
| 97 | no | yes | major | no | yes |
| 98 | no | yes | minor | no | no |
| 99 | no | no | moderate | no | yes |
| 100 | no | yes | major | no | yes |
| 101 | yes | yes | moderate | no | yes |
| 102 | no | no | moderate | no | no |
| 103 | yes | yes | moderate | no | yes |
| 104 | yes | yes | moderate | no | no |
| 105 | yes | no | moderate | no | no |
| 106 | yes | no | minor | no | yes |
| 107 | yes | yes | moderate | no | no |
| 108 | . | yes | moderate | no | no |
| 109 | yes | no | none | . | . |
| 110 | no | yes | major | no | yes |
| 111 | yes | yes | moderate | no | yes |
| 112 | yes | yes | none | . | . |
| 113 | yes | yes | none | . | . |
| 114 | . | no | major | yes | yes |

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