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Understanding Sport Coaches' Responses to Injury

*An Honors Thesis submitted in partial fulfillment of the requirements for Honors
in Health Sciences and Kinesiology*

By

Ashanti Robinson

Under the mentorship of Dr. Jody Langdon

ABSTRACT

Injury is an inevitable part of any sport an athlete decides to take part in. There are many things that go along with injury, but one of the biggest factors is the one directly responsible for the success of the athlete: the coach. The purpose of this study was, based on a systematic review of the literature, to better understand what part coaches' play in the fear of athletic injuries including their responses and the rationale for those responses. The study was conducted by cross referencing multiple articles across different databases and systematically examining the different studies to further understand fear of injury, and the impact the coaches' response has on the athlete. It was found that although there was not much information on fear of injury and coaches' response to injury, there was a multitude of information on the coach-athlete relationship, as well as how it impacts the mental, emotional, and physical well-being of the athlete. The quality of the coach-athlete relationship had a greater impact on the sub-components of sport performance, rather than an impact directly upon the physical aspects of sport. Although we were not able to find specific research studies tied to how coaches impact the injury recovery process, it can be noted that best practices such as those described in the review could contribute to an athlete's healthy recovery from injury.

Keywords: competitive athlete, fear of injury, coaching, injuries in sports, coach-athlete relationship

Thesis Mentor: *Dr. Jody Langdon*

Honors Director: Dr. Steven Engel

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Introduction

Athletic injuries have been shown to account for “an average of 2.6 million emergency department visits per year for individuals aged 5-24 years” (Adirim & Cheng, 2003, p.76). In gymnastics specifically, Caine and Nassar explained how the “increased involvement and difficulty of skills practiced at an early age and continued through the years of growth, with the volume or intensity of training required to be competitive, gives rise to concern about the risk and severity and long-term effects of injury” (2005, pg. 19)

Among the many issues surrounding sport injury, one common issue was fear of injury. Fear of injury tends to have little to do with gender, as Cartoni et al. (2005) have noted a lack of gender differences. However, fear of injury can vary by age and competition level. The fear of injury can not only cause a delay of progress when it comes to being prepared for practice and/or competition, but it can also cause “elevated levels of frustration, depression and anger” (Smith et al., 1990, p.354). This can influence the athletes’ overall performance, self-confidence, and self-esteem, which are all important in regard to safety and preventing injury (Chase et al., 2005). Not being able to control fear in a sport that requires a high level of physical activity, such as gymnastics which has been deemed as a “hazardous sport,” is detrimental to an athlete's performance and their well-being (Snook, 1979, pg. 243). In addition, Cartoni stated that “The physical risks associated with the sport of gymnastics are particularly evident to whoever wants to practice this sport and, as such, gymnastics probably tends to attract athletes who are willing to overcome these risks” Being able to acknowledge when one is fearful of injury and understanding the best way to handle that fear could directly impact athletic success. It could also have a broad impact on overall athlete well-being.

Although the psychological impact of injury may vary depending on the person and the level of their involvement with the sport, many athletes that get injured tend to show a decline in their mental health. Some studies have suggested that athletes that sustain injuries progress through grief the same way terminally ill patients do (Smith et al., 1990, pg. 353). Some athletes experienced both mood disturbance and lowered self-esteem, as they can have a difficulty in coping with the consequences of being out of their sport for an extended period of time (Smith et al., 1990). Issues such as depression, anxiety, and post-traumatic stress disorders are all psychological factors that may have affected someone who is working through an injury. One study suggests that athletes who suffered from more severe injuries were more likely to show symptoms of common mental health disorder than athletes who went without injury (Souter et al., 2018). In addition to this, another study about post-traumatic stress disorder and other trauma related disorders in elite athletes noted how one of the most common incidents that incites the symptoms of PTSD in athletes is trauma incurred in sports participation through direct physical injury (Aron et al., 2019).

Not only was fear of injury a mental health issue, but it also slowed the rate of recovery for the athlete. Athletes working through the stress of being out with an injury were usually thinking about more than just their physical pain. They were concerned with how long they would be out, how far behind they were getting, what their peers think, what their coaches and parents think, what they were supposed to be doing now that they didn't have a sport to go to. This is especially true in elite sports where the activity and pressure were more stressful on the body and the mind, and this was even more true for

male athletes who faced the stigma of being seen as weak when they speak up about injury and their mental health issues (Souter et al., 2018).

Thousands of athletes all around the world have trained with chronic injuries in a constant state of pain because that is what they believed was expected of them, and for many of them, it was. So many athletes live by common mantras like “no pain, no gain”, and “hurt is temporary, pride is forever.” Although these sayings are often used as motivation to push through pain, it further solidifies the unspoken rules of sports: injuries are not allowed, pain is disregarded and unimportant, and there are no complaints (Shuer & Dietrich, 1997).

While it is clear that psychological and physical effects of injury are a concern, another common issue that should be addressed was how coaches respond to their athletes being injured. Coaches spend the most time with athletes outside of parents or family and can have a positive or negative impact on the recovery process. Therefore, it was important to consider the coach-athlete relationship and its impact on injury recovery. Jowett (2017) explains:

“Coaching has often been viewed as a context within which coaches operate to largely bring about changes in athlete’s performance and wellbeing. One key factor to successful outcomes in coaching is the quality of the relationship between coaches and athletes” (p. 154).

As such, Jowett (2017) defines the coach-athlete relationship as a social situation; one that is continually shifting based on the internal thoughts of athletes and coaches, and how those internal thoughts are manifested through behaviors. This was a relationship that also “holds a great deal of power” and allows both athletes and coaches’ to reach

“their individual and relationship goals” (Jowett, 2017, p.154). That power can impact athletes’ perceptions of psychological safety, as evidenced in Taylor et al. (2002). Among professional rugby players, the coach-athlete relationship dictated how comfortable athletes felt during training. For this reason, it is important that we bring some more light to what it means for athletes when they get injured, and how the attitude of the coach and their response to the injury may determine the way the athlete feels about the sport moving forward. It’s important that coaches continue to offer empathetic concern for athletes, especially when it comes to injury (Taylor et al., 2022, pg. 3). Neither the coach nor the athlete can do it alone. That relationship dynamic was very important for the success of both the athlete and the coach. When athletes and coaches work together the athlete tends to feel more comfortable and motivated to both train and compete. This leads to a better relationship with their teammates, the sport, and an overall training environment.

In any sport, especially those done at a high level, going through an injury is inevitable, and some athletes were able to bounce back more quickly than other athletes (Fischerauer et al., 2018). As leaders, coaches play a key role when it comes to sport environments and the way they respond to their athletes getting injured. Although many factors are included in their recovery, the way a coach responds to their athletes getting injured greatly affects not just the athlete’s recovery, but their relationship with both the sport and coach. However, very few studies have investigated coach response to athletic injury, and the impact it may have had on the athlete. Therefore, the purpose of this study was to systematically review the literature on coaches’ responses to sport injury. Through this systematic review, this study aims to (1) understand fear of injury in gymnastics and

the impact it had on those athletes, especially those who participate in a higher level of the sport that is more competitive (2) understand how gymnastics coaches respond to injury and why they respond to injury this way, and (3) understand in what ways a coaches' response to injury affects the athlete. By finding the answers to these questions, we can come to better understand the effect that positive and negative responses to injury have on both the athlete and on the coach-athlete relationship.

Methods

Design

This study was a systematic review and was centered on the following questions: What is the impact of fear of injury on competitive athletes?; How do coaches respond to injury in sports?; and How does the response affect different aspects of the athlete and their sport? As a reference, we used two previously published systematic reviews; Rato et al. (2021) and Thomas and Thomas (2019).

Literature Searches

To conduct the study, we searched and cross-referenced multiple databases including Web of Science, MEDLINE, Google Scholar, and PubMed. The research question was divided into keywords: injury response, competitive athletes, and fear of injury. On this basis, search terms were extended to injury, fear of injury, sports, sports injuries, athlete injuries, injuries in sports, coaches' response to injuries, injuries in gymnastics, and fear of injury in gymnasts. A combination of all of these search terms was used when conducting the online searches.

A total of 17 searches were conducted across databases chosen. Of these 17 searches, we came up with a total of 594,128 search results.

Selection Criteria

Publications were selected based on the following criteria.

- (1) Participants: coaches, competitive athletes only, no athletes doing sports for recreation.

- (2) Definitions: coach was defined by an athletic instructor or trainer, and sport was defined as competitive sports, either professionally or recreationally. Sports injury refers to physical injury or trauma caused by competitive sports.
- (3) Year of publication: ideally was from the last 10 years, however no limit was imposed, and information from any year should be relevant enough for this topic.
- (4) Contents: literature related to the research questions. It was necessary to indicate what went along with the fear of injury, as well as what the coaches' response was, and discuss the impact of different responses on the athlete and what it meant for the injury. We attempted to avoid analyzing the psychological consequences of injury.
- Excluded studies that just showed injury rates in gymnastics.
 - Excluded psychological issues after injury.
 - Included coach's response to fear of injury or the injury itself.

Based on the selection criteria, 19 articles were retained and 68 were eliminated. For borderline cases, we had 2 that we were not sure fit into the criteria of the study. The first article from Lisinskiene and Lochbaum (2022) was not included due to relevancy. The article discussed more about coach and parental influence on the psychological development of athletes which was not relevant enough to what we were aiming to examine. The second borderline case we came upon was from Sweeney et al. (2023). This article was borderline due to its limited subject matter of returning to sport after injury. However, we did end up deciding to include this article in the study for additional background information about injuries and sports.

Quality Assessment

A quality assessment was conducted in accordance with the criteria noted above. First, we browsed titles and abstracts of articles for a preliminary screening. Then, if an article met the criteria for what should be included in the review, we further browsed the full text of the article to judge the connection between the article and the research questions. Bias of the articles to be judged. The literature was included if the information fit within the context of the research questions and was deemed of good quality.

Results

Injuries In Gymnastics

Many gymnastics injuries can be attributed to overuse, an inappropriate training program, or an overall sense of anxiety concerning injury. To verify the main conditions that have an impact on injuries in the sport of gymnastics, we examined articles that go into detail on the subject. For example, Cartoni et al. (2005) discuss how the gender, age, and professional level of athletes may have an impact on injury and the fear of injury. Researchers reported that female gymnasts, as well as very young gymnasts, tend to be more anxious than their counterparts. These traits can raise not only the fear of injury but injury itself in athletes who exhibit these anxious habits. Related to this, Kolar et al. (2017) showed that there are a multitude of causes of injury in the sport of gymnastics. Though it may seem counterintuitive, the basic attributes of training and age have much less of an impact on injury than some other factors. According to athletes, their internal environment and training program are the main culprits for acute and chronic injuries. Athletes training for an extended period, which are most high-level athletes, were much more likely to be victims of injury than those who did not.

Fear of Failure

Fear of failure is one aspect of sports that continuously came up in our search. This characteristic that is present in many different types of athletes tends to have a very strong impact on the success of athletes in their sport. It is also one aspect of sport that seems to come up when discussing the influences that others have on athletes. In Gustafsson et al., (2016), all fear of failure variables were positively and moderately correlated with each other, and positively and weakly to moderately correlated with

measures of burnout: perceived psychological stress, reduced sense of accomplishment, emotional exhaustion, and devaluation. Moreno-Murcia et al. (2019) gives a glimpse into how certain aspects of coaching can have an impact on an athlete's fear of failure. Coaching styles that reflected high levels of control and limited support for athlete autonomy are associated with an athlete-profile characterized by high levels of fear of failure (Moreno-Murcia et al., 2019). Coaches who use threats, pressure, and punishment can provoke frustration and burnout which can strengthen an athletes' fear of failure. Conversely, coaches who help shape their athletes through emphasis on personal progression and improvement can result in a reduction of fear of failure for the athletes. Among the athletes surveyed in the study, a positive correlation between their perceptions of coaching style and fear of failure emerged. In particular, those who adopt a more motivational coaching style are much more likely to foster successful athletic performance, whereas those who adopt a more controlling coaching style will tend to have athletes who are anxious and burned out. In a related study, Gustafsson et al. (2016), found that fear of failure is related to athletes' anxiety and psychological stress, as well as a sense of accomplishment. When combined with maladaptive coping responses, this fear of failure may lead to burnout. On the other hand, Gómez-López et al., (2019) explains how coaches who create a task-involving climate promote effort, interest in learning and personal progress. Athletes who are subject to this kind of motivational environment enjoy psychological well-being, increased enjoyment of sports, and less competitive anxiety, which would result in a decreased sense of fear of failure. This is opposed to athletes training in a competitive or ego-based environment, who

experience high levels of anxiety and fear of failure and get less satisfaction from their practice.

Coach and Athlete Relationship

During our search, we found that the topic of the coach-athlete relationship came up the most out of any other subject matter. Though we did come up with 10 different articles, relating to our topic, there were just a few main ideas that continuously emerged, including the importance of the coach-athlete relationship, controlling coaching behaviors, and athlete burnout and wellbeing. Overall, it was evident that the way a coach approaches their coaching and the training environment they create may have a lasting impact on the way the athlete sees not only their sport, but their coach as well.

Importance of the Relationship & Leadership Styles

The coach-athlete relationship is a reciprocated system in which each party may influence the other. Being supportive is crucial in determining the compatibility of the coach-athlete relationship. This can be done by exhibiting care and support in both sport and non-sport environments. Displaying emotional intelligence, and empowering athletes to make their own choices has a considerable influence on this as well (Carson et al., 2021). When coaching, positive nonverbal communication is important when interacting with athletes, as it can invoke self confidence in both the athlete and the coach. This kind of communication includes open and engaging body language and acknowledging athlete effort. This is especially important for athletes during late adolescence, as they perceive their coaches' behaviors to relate more strongly to their performance than those in early adolescence. For younger athletes, having a coach who possesses greater leadership abilities could lead to an increase in sport motivation when compared to older athletes.

This might be explained by the process of maturation, where younger athletes are more predisposed to the influence of coaches' behaviors.

In addition, young athletes at the regional and national levels tend to be more receptive to coach leadership, however, the positive outcomes of coach leadership on sport motivation take time and may not be completely realized at younger ages (Lopez et al., 2022).

Coaches do not treat all athletes the same, and not all athletes respond to the same coaching styles. The classification of leadership styles has been found to have a major impact on the quality of the coach-athlete relationship, since the coach's behavior guides the level of authenticity, trust, and closeness that are crucial in this type of reciprocal relationship (Carson et al., 2021). A large number of studies have indicated that autonomy-supportive behavior has a positive impact on the motivation of an athlete. This kind of coaching style is a style in which the coach provides the opportunity for athletes to make their own decisions, as well as the emphasis of task relevance and the acknowledgment of an athlete's feelings and perspective help to motivate the athlete in more positive ways (Mageau & Vallerand, 2003). The three determinants of a coaches' autonomy-supportive behavior are the coach's personal orientation, the context of the situation, and the athlete's personal behavior and motivation. Autonomy-based athlete-centered relationships that are guided by a more democratic style of leadership are the most effective in achieving a positive coach-athlete relationship. Both the coach and the athlete being flexible and adaptable is important in creating this kind of autonomy-supportive environment (Carson et al., 2021). A coach's actions should be swayed situationally by awareness for how their athlete perceives different actions and behaviors. Using different styles of leadership based on context is recommended, because a more

autocratic leadership style reduces athlete autonomy and negatively influences the coach-athlete relationship. The coach-athlete relationship is a dyadic interaction, and both parties need to be satisfied in order for the relationship to be considered successful. It is important to get to know athletes both in and out of their sport environment, in order to better understand the most effective way to meet their physical, mental, and emotional needs as well as their goals in their sport.

Controlling Coaching

Controlling behaviors are defined as pressures to think, feel or behave in specific ways, thereby ignoring the person's needs and feelings (Mageau & Vallerand, 2003). A controlling coaching style may impede the degree to which an athlete experiences thriving. This coaching style is also associated with an increased risk of burnout in athletes due to perfectionism (Gucciardi et al., 2017). Many coaches adopt a controlling coaching style because they either falsely believe it will bring better results, or because they feel like they need to do the difficult and unmotivated behavior of an athlete. Western culture has adopted the mindset that rewards and punishments are the most beneficial way of coaching (Mageau & Vallerand, 2003). However, more recent research from a humanistic perspective shows that an athlete-centered leadership style can positively influence the physical and emotional development of the athlete (Carson et al., 2021).

The more controlling an athlete's coaches are, the less likely it is that their basic psychological needs (BPN) are being met. Stronger controlling coaching also leads to an increase in fear of failure (FF). Athletes with controlling coaches tend to participate in high-performance sports as more of an obligation, with an increased sense of fear of

failure (Hu et al., (2023). Further, controlling coaching may not affect all athletes the same way. The degree of mental toughness within the athlete may affect the way he or she responds to a controlling coaching style (Gucciardi et al., 2017). No matter how much athletes improve in terms of ability in their training, they still need to be recognized and validated with regard to their BPN.

Athletes at the elite level are more mature psychologically in terms of skills. They are more concerned with keeping their position on the team, improving their skills, and pursuing a career in sports. This high level of sport is usually associated with a more controlling coaching style, as athletes at this level have more on the line. Athletes at a lower level, however, still require upward mobility psychologically, and are more concerned with getting more opportunities to compete, acquiring better skills and results, and realizing their athletic dreams. This fact may lead to a lower level of enthusiasm among athletes at the elite level, than athletes at other levels. Athletes at the elite level “have a stronger sense of obligation to persevere after experiencing greater expectations from others” (Hu et al., 2023, ADD Page Number for quote).

Impact on athlete burnout and well-being

Coaches’ and athletes’ emotions, cognitions, and behaviors are interdependent in the coach-athlete relationship (Thelwell et al., 2016). Choi et al. (2020) explain how this relationship is determined by the authenticity, engagement, empowerment, and ability to deal with conflict of each individual. It is important to take the perceived qualities of the coach into account when examining the relationship between perfectionism and burnout. Both athlete and perceived coach performance perfectionism positively predict athlete burnout (Olsson et al., 2021). Athletes may experience burnout not just because of their

own perfectionism, but also because they believe their coach expects and demands them to perform perfectly. If athletes are able to form positive relationships with coaches and interact with them using effective communication skills, they are more likely to feel that their psychological needs are being met, which will decrease their likelihood of burnout (Choi et al., 2020). In addition to burnout, coach-athlete relationship quality can be associated with athlete exhaustion. Conversely, relationships characterized as being close, complementary, and committed, have been associated with athletes' reporting less exhaustion (Davis et al., 2018).

Coach stress might have an influence on the emotional and psychosocial climate of the entire sports environment. There are many reasons for a coaches' stress, one being associated with a decrease in athletic performance. It is important to note that athletes are usually able to detect this change in attitude and behavior (Thelwell et al., 2016). The reported influence of coach stress on athletes' and coach perceptions of effectiveness appear to highlight an inability of coaches to manage their stress and emotions in challenging situations. Thelwell et al. (2016) believes it is necessary for scholars to consider coping and stress management strategies and techniques for both training and competition.

“Interventions aimed at increasing a coaches' awareness of their behaviors when they are not stressed in addition to their key signals of stress may provide a useful measure to enhance their effectiveness in stress management, emotional stability, and increased self-awareness” which would limit any potential issue that may arise from their stress being transferred onto athletes (Thelwell et al., 2016, p.1937).

Anxiety can be associated with diminished concentration and impaired decision making. An athlete's anxiety response to performance demands may be influenced by the relationship quality with his or her coach. The Coach-athlete relationship quality can be enhanced by a coach's use of effective interpersonal emotion regulation strategies. This can result in additional physiological effects including minimizing athletes' indices of stress responses, as observed via cortisol activity (Davis et al., 2018). This could have interesting implications for injury recovery due to cortisol's involvement in the stress and healing response.

Athlete Health

Athlete health is a topic that encompasses all other topics related to athletes in sport. Too many athletes tend to sacrifice their short-term well-being, as well as their long-term health, for a chance at victory and success. Many athletes push themselves beyond their limits and sacrifice their health and well-being in order for a chance at success. In an article by Grindem and Myklebust (2020), we were given insight into the issue of athletes pushing themselves beyond what they know they can handle in order to please their coaches. This is a very big concern in sports, especially elite sports where the stakes are higher. The main question posed in this topic is about how athletes and those in charge of them can find a balance between protecting the health of an athlete, and doing what needs to be done in order for the athlete to be successful. Mental health is also an important subtopic of athlete health. Rato Barrio et al. (2021) highlights the importance of an empowering environment, autonomy-supportive coaching, and the coach-athlete connection in relation to an athlete's mental health. All of these things prove to be necessary for the purpose of catering to the mental, emotional, and physiological needs of

an athlete. In addition to this, the article also posed some obstacles that coaches may face to create the much-needed autonomy-supportive environment and cater to the various inner needs of an athlete. When it comes to athlete health, Grindem and Myklebust (2020) pose a thought-provoking question: “How can athletes and their coaches/mentors balance protecting the health and well-being of the athlete, and also doing what is necessary in order for the athlete to be successful? (p.1) Although some clubs have had systems put in place in order to reduce the mental and emotional risks of athletes, there is still some room for individuals to make decisions that will either increase or decrease these risks.

Discussion

Through multiple databases, we systematically reviewed the literature on three main topics: fear in gymnastics and the influence those fears have on athletes, more particularly, those who engage in a higher level that is more competitive, coaches' response to injury and why they respond this way, and what a coaches' response to injury does to the mental, emotional, and physical wellbeing of the athlete. Although our search did not yield exactly what we were hoping to find, several topics were addressed that relate very closely to these phenomena, including injury in gymnastics, fear of failure, athlete health, and the coach-athlete relationship. As such, our discussion will focus on what was found and how it might potentially impact a coach's response to injury.

Most injuries in sports where athletes are subject to training and competing at a high level can be associated with an unsuitable training program or an overarching sense of anxiety with regard to obtaining an injury. In order to validate the conditions that have the most profound impact on injuries in sport, we reviewed multiple articles that went into detail on the subject. Cartoni et al. (2005) found that female athletes as well as young athletes tend to be more anxious than their male and older counterparts, which is a quality that can not only raise the fear of injury, but injury itself in athletes who tend to display anxious tendencies. Furthermore, in connection with injury in gymnastics and sports, studies also provided information on the causes of injury in gymnastics. Interestingly, training and age have less of an impact on injury than the actual training environment and program (Kolar et al., 2017).

When analyzing fear of failure, it was evident that this subject matter is one that is present in many types of athletes and has a great bearing on the likelihood of success in

sport. Additionally, it is one subject of sport that seems to come up frequently when discussing the impact that others have on athletes. Moreno-Murcia et al. (2019) explained how controlling coaching styles are associated with higher levels of fear and failure, and conversely, how a more athlete-centered approach is associated with lower levels of fear of failure. In addition to coaching methods, Gustafsson et al. (2016) found that fear of failure is also connected with anxiety and psychological stress, as well as a sense of accomplishment. These studies also revealed that in some instances, fear of failure may even lead to burnout. Athletes who are trained in a more controlling and ego-based environment are much more likely to exhibit higher levels of fear of failure, achieve less satisfaction from their practice, and burnout as a result.

Expanding to other outcomes, athlete health incorporates aspects of health outside of burnout and other mental health concerns. Grindem & Myklebust, (2020) explained how too often, athletes are sacrificing their short- and long-term health and well-being for a chance at success. The same article brought awareness to the issue of athletes pushing themselves beyond what they know they can handle, in order to please their coaches and those around them. Through the research we found that this issue is most prevalent among elite level athletes where the stakes are high. The main question to ask in relation to the health of athletes is how the athletes as well as those in charge of them can balance doing what needs to be done to succeed with protecting their health. An empowering environment, autonomy-supportive coaching, and a good coach-athlete relationship are all factors crucial to properly cater to an athlete's health and well-being. Despite the fact that in recent times, some athletic clubs and organizations have managed to put systems in place to reduce the physical, mental, and emotional risks to athletes, plenty of room

remains for more individuals to make decisions that will contribute to a decrease in these risks.

In our review, coach-athlete relationships produced the largest number of relevant studies. All studies made it apparent that a coaches' approach to coaching and the training environment they develop and maintain, will bring a perpetual impact on an athletes' perception of their sport, their coach, and themselves. In structuring the sports environment, it is crucial for the coach-athlete relationship to be a reciprocal system as opposed to a unilateral one. Carson et al. (2021) lists a multitude of behaviors such as showing care, support, emotional intelligence, and empowerment, which should be taken to ensure both individuals are in accordance with each other. Along with verbal communication, nonverbal communication such as engaging body language and acknowledging athlete performance are essential. This is especially true for older athletes, as they are more susceptible to their coaches' behaviors and relate those behaviors to their performance.

A coaches' approach will vary depending on the athlete, just as an athletes' response to coaching will vary depending on the coaching style. Given that the coaches' attitude and behaviors guide the level of trust, closeness, and genuineness of the relationship, the variety of leadership styles has a significant impact. As Carson et al. (2021) mentions, it's important for both parties to be flexible and adaptable when trying to foster a stable relationship. Conversely, an autocratic coaching style, where there is an emphasis on ego and ignoring the feelings of athletes, will tend to have a much more negative influence on the athlete and their environment. The actions of a coach should be determined situationally by the awareness of how the athlete perceives different

behaviors. By understanding more about the athlete than their athletic capabilities, we can distinguish the best way(s) to cater to their physical, mental, and emotional needs.

Evaluating the extent to which controlling coaching can impede an athlete's training and performance is a necessary step in the process of eliminating this behavior altogether. Coupled with a decrease in athlete thriving, controlling coaching can increase the risk of athlete burnout and perfectionism (Gucciardi et al., 2017). An individual who adapts this sort of coaching style will normally do so due to the false belief that control brings better results, or due to the challenging and/or lackadaisical conduct of the athlete. According to Mageau & Vallerand, (2003) unfortunately, modern culture has acquired the mindset that rewards and punishments will yield the most results.

In sport, all athletes have basic psychological needs (BPN) that should be met in order for them to maximize their performance and potential. A more controlling environment will not only significantly diminish the chances of an athlete's BPN being met, but it increases the likelihood of a fear of failure. Those subject to a controlling coaching environment tends to carry out their athletic responsibilities due to a sense of obligation and pressure, as opposed to enjoyment, which, as mentioned by Hu et al. (2023), will also lead to a fear of failure. Regardless of how much an athlete advances in their performance and exhibits success in their sport, their BPN still needs to be acknowledged and validated.

Controlling behaviors are substantially more prevalent at the elite and professional level where the pressure is more intense, and there is little to no room for error. Those training at this level have more to be concerned about, as their position on the team, as well as their career are constantly on the line. Due to the intensity of this

kind of environment, this level of sport is more commonly associated with controlling coaching behaviors. In contrast, although those performing at a lower level still require upward psychological mobility, they have less to lose, and are more interested in developing their skills, gaining competition opportunities, and discerning their athletic desires. This reality tends to result in elevated enthusiasm in those at the lower level, and diminished enthusiasm in those at the elite level.

The coach-athlete relationship is one of interdependent behaviors, as both parties' emotions, cognitions, and behaviors affect the balance of this connection. As Choi et al. (2020) explained, the authenticity, engagement, and ability to deal with conflict of each individual is crucial in determining the quality of the relationship. When examining the correlation between the coach-athlete relationship and athlete burnout and well-being, it's necessary to incorporate coaches' qualities and behaviors into this evaluation. As maintained by Olsson et al. (2021), athlete and coach perfectionism are both determinants that positively predict athlete burnout. An athletes' belief that their coach expects them to perform perfectly, combined with their perfectionism, will undoubtedly lead to the athletes' disengagement. Nevertheless, if athletes and coaches are able to form a positive relationship, maintained by the use of effective and functional communication, it's more plausible that they will feel their psychological needs are being met, which will lessen the likelihood of burnout. In conjunction with burnout, the coach-athlete relationship could also lead to exhaustion. That said, relationships distinguished by closeness, commitment and appreciation, are associated with less athlete exhaustion (Davis et al., 2018).

Considering coaches are the main ones responsible for the psychosocial climate of the sports environment, it's sensible that their stress may have an influence on the

environment, thereby having an impact on the athletes' well-being. A primary explanation for coach stress can be attributed to a decrease in athlete performance.

Noteworthy to mention in this discussion, Thelwell et al., (2016) asserts that athletes can usually perceive this change in behavior and attitude. The reported research on the impact of a coaches' stress on athletes convey the idea that too many coaches may be unable to manage their stress and emotions in demanding and frustrating situations. It's crucial for scholars and coach educators to consider coping and stress management techniques that coaches can use for training, as well as competition (Thelwell et al., 2016).

The relationship one has with their athletes is an essential part of determining their athletes' potential success. In sports, whether in a professional position or a lower level, athletes are prone to perfectionism, stress and anxiety, thereby suffering from either fear of injury or actual injury as a result. Furthermore, anxiety also has an influence on athletes' concentration and decision making. An athlete's anxiety response to performance demands placed on them may be altered by the quality of the relationship with his or her coach. The quality of this relationship can be augmented by a coach's use of effective emotion regulation techniques. As a result, observed via cortisol activity, Davis et al. (2018) express that physiological effects including a minimized stress response in athletes may occur. As a coach, creating and maintaining a positive, athlete centered environment, as well as the way one goes about coaching and dealing with their own stressors, will have a big impact on how the athletes feel about themselves and their performance, when in training and competition. As noted in Kolar et al. (2017), actual training and age have less of an impact on injury than the environment and the training program that coaches set up. In sport, the training environment and program is the

coach's responsibility. If an autocratic stance is taken as opposed to an athlete-centered, autonomy-supportive stance, fear of injury could increase, which will undoubtedly increase the risk of actual injury. Training in an environment where there is an emphasis on ego and ignoring the feelings of athletes, and those athletes being unable to voice their concerns and speak up, will only pose a threat to them and their performance (Carson et al., 2021). When participating in sports, one cannot be afraid to express when they believe they are in danger of injury. By perceiving things like the tone of the athletic environment and their coaches' verbal and/or nonverbal behaviors, an athlete will either be afraid to voice their concerns, which can lead injury, or they will feel safe to voice their concerns which will lead to a decrease in the likelihood of injury, and a positive connection in the coach-athlete relationship. As the one in a position of power, taking the time and the effort to foster a positive coach-athlete connection is important in ensuring the athletes feel safe, heard, and validated in their efforts to communicate and succeed in their performance. That being said, taking into consideration that this relationship is a reciprocal one, in addition to the actions of the coach, it's important for the athlete to continuously reflect on their attitudes and behaviors, doing their part to guarantee the relationship is one of balance and harmony. When both individuals carry out all necessary responsibilities and utilize effective communication, we can be certain the relationship is serving both parties, and that the environment is one of positivity and autonomy. Additionally, we can be confident that the necessary steps are being taken to reduce not only the fear of injury, but injury itself.

Through research done from multiple databases, our results did yield many findings explaining the coach-athlete relationship and the impact it has on multiple

factors in sports including fear of failure and athlete well-being. However, our review did not provide much information on the role the coach plays in the fear of injury as well as their response, and the reason for that response, which was our original intention.

Accordingly, future research might include a better look into a more direct connection between fear of injury in athletes, what causes this fear, and the role the coach plays in either amplifying this fear or reducing it. Additionally, a look into the psychological effects of injury, as well as the resulting physical effects may give greater insight into the significance of injury in sports.

Limitations

Our initial searches were aimed at articles containing information regarding fear of injury, and coaches' response to injury. As a result of this search, we were not able to find information on these exact topics. Due to the limited information on the points, we initially considered, the aim of the review shifted slightly to focus more on factors contributing to injury and athletes' health. More studies including information on fear of injury and the coaches' response would have laid a better foundation for the review and given us more insight into the original topic. In addition, our searches were conducted using specific databases including, Web of Science, MEDLINE, Google Scholar, and PubMed. An increased number in the amount of databases used may have yielded additional results that could have been useful in discussing the topic. Further, our search only considered studies written in the English language. We recognize that the inclusion of studies that were written in other languages could have provided us more information on our review topic. Finally, our search strategies did not include a broad view of sports, as gymnastics was the primary focus. We acknowledge that the lack of consideration for other sports in relation to this topic may have contributed to the lack of initial search results.

Conclusions and Practical Recommendations

The quality of the coach-athlete relationship may have a greater impact on cognitive sub-components of sport performance, rather than an impact directly upon the physical aspects of sport (Davis et al., 2018). Coaches may not always have the time and energy to cater to the needs of their anxiously attached athletes. Athletes who possess an anxious attachment style may be self-aware of the demands imposed on their coaches, so they may not allow this attachment style to interfere with the quality of the coach-athlete relationship (Davis & Jowett, 2014). Secure athletes on the other hand, who are more comfortable with emotional closeness and interdependence, perceive a better coach-athlete relationship and are more likely to recognize that their coaches are able to provide support and they experience less interpersonal conflict (Davis & Jowett, 2014). A coach who is more sensitive and responsive to athletes allows the athletes to broaden their viewpoints and build quality relationships and connections with the coaches who are more capable of generating positive emotions (Davis & Jowett, 2014). In sports, coaches should reduce the use of highly authoritative coaching and punishment and reprimand, and instead should use more technical and tactical processes like open-ended questions, praise, and silent attention (Hu et al., (2023).

The more coaches have internalized a controlling style of teaching skills and managing sport environments, the more their coaching behaviors represent a broader sense of control, which undermines an athlete's intrinsic and self-determined motivation (Mageau & Vallerand, 2003). Controlling coaching behaviors are shown to be associated with athlete burnout due to perfectionism and psychological needs satisfaction and frustration (Gucciardi et al., 2017). An athlete's experiences reflect not only their own

perfection, but the attitudes and expectations of their coach(es) as well. In sum, coaches who invest in the development of high-quality relationships with their athletes can optimize an athletes' sport experience, performance, and well-being. It is believed that the coach's point of view toward mastery goals will have a significant effect on communication in addition to athlete success (Choi et al., 2020). Although we were not able to find specific research studies tied to how coaches impact the injury recovery process, it can be noted that best practices such as those previously described could contribute to an athlete's healthy recovery from injury.

Annotated Bibliography

Adirim, T. A., & Cheng, T. L. (2003). Overview of injuries in the young athlete. *Sports Medicine*, 33(1), 75–81. <https://doi.org/10.2165/00007256-200333010-00006>

This article talks about injuries in young athletes. It's estimated that 30 million children in the United States participate in organized sports, which is a substantial increase over the last 20-30 years. As more children participate in sports and other recreational activities, acute and overuse injuries are on the rise. Emergency department visits are now the highest among the school-age to young adult population. It is estimated that over $\frac{1}{3}$ of school aged children will be treated by a nurse or a doctor as a result of injury. One study has estimated that there is an average of 2.6 million emergency department visits a year for sports-related injuries for youth people aged 5-24 years. The peak however, for emergency visits for injury are the most common in ages 5-14 years, and it decreases gradually with age. It's estimated that 38% of high school children and 34% of middle school children will be treated by a doctor or nurse for an injury related to physical activity. However, it is likely that the number of injuries is actually larger when you take into account those that do not seek medical attention for their injuries.

Aron, C. M., Harvey, S., Hainline, B., Hitchcock, M. E., & Reardon, C. L. (2019). Post-traumatic stress disorder (PTSD) and other trauma-related mental disorders in elite athletes: A narrative review. *British Journal of Sports Medicine*, *53*(12), 779–784. <https://doi.org/10.1136/bjsports-2019-100695>

The review talks about post-traumatic stress disorder and other trauma disorders in elite athletes. It's been shown that athletes may show greater rates of PTSD and other disorders than non-athletes. There are a few things that have been identified that can lead to athletes showing symptoms of PTSD, one of them being trauma incurred through physical injury. Although PTSD may be common in elite athletes, it may be hard to recognize it due to the fact that athletes tend to mask the symptoms of PTSD and other trauma related disorders. Athletes may experience trauma before sports, during sports, or outside of sports during their athletic careers. There is sparse data in regard to the frequency of PTSD screening for athletes, but the high rates of PTSD in this population may warrant routine screening for them. The use of screening for these trauma disorders in these athletes may prevent PTSD symptoms developing.

Carson, F., Blakey, M., Foulds, S. J., Hinck, K., & Hoffmann, S. M. (2021). Behaviors and actions of the strength and conditioning coach in fostering a positive coach-athlete relationship. *Journal of Strength and Conditioning Research*, 36(11), 3256–3263. <https://doi.org/10.1519/jsc.0000000000004073> (Carson et al., 2021)

- The coach-athlete relationship is a dyadic interaction, and both parties need to be satisfied in order for the relationship to be considered successful.
- A coach's actions should be swayed situationally by awareness for how their athlete perceives different actions and behaviors. Using different styles of leadership based on context is recommended, because a more autocratic leadership style reduces athlete autonomy and negatively influences the coach-athlete relationship.
- Autonomy-based athlete-centered relationships that are guided by a more democratic style of leadership are the most effective in achieving a positive coach-athlete relationship. Being flexible and adaptable is important in creating this kind of autonomy-supportive environment.
- The classification of leadership styles has been found to have a major impact on the quality of the coach-athlete relationship, since the coach's behavior guides the level of authenticity, trust, and closeness that are crucial in this type of reciprocal relationship.
- An athlete-centered leadership style can positively influence the physical and emotional development of the athlete.
- Being supportive is crucial in determining the compatibility of the coach-athlete relationship. This can be done by exhibiting care and support in both sport, and

non-sport environments. Displaying emotional intelligence, and empowering athletes to make their own choices has a considerable influence on this as well.

- Positive nonverbal communication is important in the coach-athlete relationship as well, as it can invoke self confidence in both the athlete and the coach. This kind of communication includes open and engaging body language and acknowledging athlete effort.
- Although it is known that female athletes favor emotional support more than males, there are other factors including age, sport type, and motivational orientation that have a more profound influence on athletes' preferred leadership style.
- It is important to get to know athletes both in and out of their sport environment, in order to better understand the most effective way to meet their physical, mental, and emotional needs as well as their goals in their sport.

Cartoni, A. C., Minganti, C., & Zelli, A. (2005). Gender, age, and professional-level differences in the psychological correlates of fear of injury in Italian gymnasts. *Journal of Sport Behavior*, 28(1), 3-17. Retrieved from <https://www.proquest.com/scholarly-journals/gender-age-professional-level-differences/docview/215872797/se-2>

This article discusses what impact age, gender, and psychological factors have on the fear of injury. In addition to this, gymnasts with more experience expressed more fear of physical injury than those with less experience. Athletes in the sport of gymnastics are required to execute incredibly difficult movements that require a multitude of things like speed, technique, strength, etc. Because of this, feelings of fear, worry, and anxiety may arouse in the body and either prevent the gymnasts from performing the movement, or making it extremely challenging for them to do so. Furthermore, when it comes to younger and more inexperienced gymnasts, this kind of fear may affect their motivation to train and may cause them to withdraw from these activities at a young age. In addition to this, fear of injury may cause a fear of doing the skill at all, or a “mental block”, which can be detrimental to a gymnast’s progress. The hypothesis as far as fear of injury was that female gymnasts would experience more fear of injury than male gymnasts. The study explored whether fear of physical injury varied with the gymnast’s level of experience. The results of the study found that male gymnasts were significantly less anxious than female gymnasts. Additionally, female gymnasts tended to be slightly more fearful than male gymnasts, but not enough to make a statistical significance. More results regarding fear of injury showed that while younger gymnasts were the most

fearful among regional level athletes, older gymnasts were more fearful among the experienced, national-level athletes.

Chase, M. A., Magyar, T. M., & Drake, B. M. (2005). Fear of injury in gymnastics: Self-efficacy and psychological strategies to keep on tumbling. *Journal of Sports Sciences*, 23(5), 465–475. <https://doi.org/10.1080/02640410400021427>

The goal of this study was to look at fear of injury in female gymnasts, their sources of self-efficacy, and the psychological strategies used to overcome those fears. Gymnastics ranges from level 1 representing the least amount of skill required, to level 10 representing the highest amount of skill required. As one advances to the higher optional levels (levels 6-10), the load her body must endure becomes greater and greater. The high difficulty, intensity, and volume of the skills being performed as the gymnasts' advances to higher levels, highlights the risk being taken by the gymnasts and increases the opportunity for injury. The risk of injury is believed to coincide with the skill of the athlete - as the athlete's skill level increases and improves, the likelihood of injury increases. As the likelihood of injury increases, it's expected that the gymnast will also experience an increase in the mental demands associated with the high risk of physical injury. This perception of risk could escalate to the point where the athlete is experiencing apprehension, anxiety, or even fear when having to perform a new skill.

Choi, H., Jeong, Y., & Kim, S.-K. (2020). The relationship between coaching behavior and athlete burnout: Mediating effects of communication and the coach–athlete relationship. *International Journal of Environmental Research and Public Health*, *17*(22), 8618. <https://doi.org/10.3390/ijerph17228618> (Choi et al., 2020)

- The coach-athlete relationship is determined by the authenticity, engagement, empowerment, and ability to deal with conflict of each individual.
- If athletes are able to form positive relationships with coaches and interact with them using effective communication skills, they are more likely to feel that their psychological needs are being met, which will decrease their likelihood of athlete burnout.
- It's necessary to investigate whether coaches use autonomy-supportive strategies more often for elite/professional athletes, or whether coaching behavior is more related to the gender of the athlete.
- It is believed that the coach's point of view toward mastery goals will have a significant effect on communication.
- It is expected that research on these issues will provide positive data that can be utilized in constructing a leader training program, including strategies for the improvement and maintenance of the relationships between leaders and athletes and for prevention of athlete burnout in the future.

Davis, L., Appleby, R., Davis, P., Wetherell, M., & Gustafsson, H. (2018). The role of coach-athlete relationship quality in team sport athletes' psychophysiological exhaustion: Implications for physical and cognitive performance. *Journal of Sports Sciences*, 36(17), 1985–1992.

<https://doi.org/10.1080/02640414.2018.1429176> (Davis et al., 2018)

- The Stroop test was used to measure cognitive performance. The quality of the coach-athlete relationship was associated with better cognitive performance on the Stroop test.
- The quality of the coach-athlete relationship may have a greater impact on cognitive sub-components of sport performance, rather than an impact directly upon the physical aspects of sport.
- Anxiety can be associated with diminished concentration and impaired decision making. An athlete's anxiety response to performance demands may be influenced by the relationship quality with his/her coach.
- Coach-athlete relationship quality can be enhanced by a coach's use of effective interpersonal emotion regulation strategies.
- Coach-athlete relationship quality can be associated with athlete exhaustion. Relationships characterized as being close, complementary, and committed, have been associated with athletes' reporting less exhaustion.
- Coaches who invest in the development of high-quality relationships with their athletes can optimize an athletes' sport experience, performance, and well-being.
- High quality coach-athlete relationships were seen to minimize athletes' indices of stress responses observed in cortisol activity.

Davis, L., & Jowett, S. (2014). Coach–athlete attachment and the quality of the coach–athlete relationship: Implications for athlete’s well-being. *Journal of Sports Sciences*, 32(15) 1–11. <https://doi.org/10.1080/02640414.2014.898183> (Davis & Jowett, 2014)

- Coaches may not have the time and energy to cater to the needs of their anxiously attached athletes.
- Athletes who possess an anxious attachment style may be self-aware of the demands imposed on their coaches, so they may not allow this attachment style to interfere with the quality of the coach-athlete relationship.
- Athletes with an avoidant attachment style are more likely to perceive lower levels of support from the coach and to put less value on the coach-athlete relationship.
- Secure athletes who are more comfortable with emotional closeness and interdependence, perceive a better coach-athlete relationship and are more likely to recognize that their coaches are able to provide support and they experience less interpersonal conflict.
- A coach who is more sensitive and responsive to athletes allows the athletes to broaden their viewpoints and build quality relationships and connections with the coaches who are more capable of generating positive emotions.

Fischerauer, S. F., Talaei-Khoei, M., Bexkens, R., Ring, D. C., Oh, L. S., & Vranceanu, A. M. (2018). What is the relationship of fear avoidance to physical function and pain intensity in injured athletes? *Clinical Orthopedics & Related Research*, 476(4), 754–763. <https://doi.org/10.1007/s11999.00000000000000085>

This article discusses fear avoidance and how it can play an important role in maladaptive responses to injury. In athletes suffering from injury, pain-related fear or fear avoidance may have a significant impact on the recovery process. This might explain why some athletes are able to bounce back from their injuries and get back to the level they were on, while some other athletes end up being unable to return to their sport. The results of this study were as follows: an increase in athletes' fear avoidance was associated with a decrease in physical function. In conclusion, in athletes that are injured, fear avoidance is independently associated with decreased physical function, whereas pain catastrophizing (magnifying the threat value of pain or an injury) is associated with high pain intensity. When it comes to clinical interventions used for helping athletes recover from injury and return to the sport, the athletes fear avoidance and their pain catastrophizing should be taken into account. If we can understand what an athlete thinks about their injury, we can better understand how to help them.

Gómez-López, M., Ruiz-Sánchez, V., & Granero-Gallegos, A. (2019). Analysis of the prediction of motivational climate in handball players' fear of failure.

International Journal of Environmental Research and Public Health, 16(3), 344.

<https://doi.org/10.3390/ijerph16030344> (Gómez-López et al., 2019)

Coaches who create a task-involving climate promote effort, interest in learning and personal progress. Athletes who are subject to this kind of motivational environment enjoy psychological well-being, increased enjoyment of sports, and less competitive anxiety, as opposed to athletes training in a competitive or ego-based environment, who experience high levels of anxiety and get less satisfaction from their practice.

Grindem, H., & Myklebust, G. (2020, April). Be a champion for your athlete's health.

The Journal of orthopedic and sports physical therapy, 50(4), 173-175.

<https://pubmed.ncbi.nlm.nih.gov/31995430/> (Grindem & Myklebust, 2020)

- Many athletes push themselves beyond their limits and sacrifice their health and well-being in order for a chance at success.
- How can athletes and their coaches/mentors balance protecting the health and well-being of the athlete, and also doing what is necessary in order for the athlete to be successful?
- Although some clubs have had systems put in place in order to reduce the health risks of the athlete, there is still some wiggle room in them for individuals to make decisions that will either increase or decrease these health risks.

Gucciardi, D. F., Stamatis, A., & Ntoumanis, N. (2017). Controlling coaching and athlete thriving in elite adolescent netballers: The buffering effect of athletes' mental toughness. *Journal of Science and Medicine in Sport*, 20(8), 718–722.
<https://doi.org/10.1016/j.jsams.2017.02.007> (Gucciardi et al., 2017)

A controlling coaching style may impede the degree to which an athlete experiences thriving. This coaching style is also associated with an increased risk of burnout due to perfectionism.

Controlling coaching behaviors were inversely related with experiences of vitality and learning.

Mental toughness was positively associated with psychological experiences of thriving, and it moderated the effect of the coach's controlling style on learning but not on vitality experiences.

Controlling coaching may not affect all athletes the same way. The degree of mental toughness may affect the way an athlete responds to a controlling coaching style.

Gustafsson, H., Sagar, S. S., & Stenling, A. (2016). Fear of failure, psychological stress, and burnout among adolescent athletes competing in high level sport.

Scandinavian Journal of Medicine & Science in Sports, 27(12), 2091–2102.

<https://doi.org/10.1111/sms.12797> (Gustafsson et al., 2016)

All five fear of failure variables were all positively and moderately correlated, and they were all positively and weakly to moderately correlated with the perceived psychological stress, reduced sense of accomplishment, emotional exhaustion, and devaluation.

Fear of failure is related to anxiety and psychological stress together with athletes' maladaptive coping responses to their fear of failure may lead to burnout.

Sense of accomplishment is linked to a higher fear of failure.

The dimensions of fear of failure did not have a significant effect on emotional/physical exhaustion and sport devaluation.

Hu, Q., Li, P., Jiang, B., & Liu, B. (2023). Impact of a controlling coaching style on athletes' fear of failure: Chain mediating effects of basic psychological needs and sport commitment. *Frontiers in Psychology, 14*.

<https://doi.org/10.3389/fpsyg.2023.1106916>

- Basic Psychological Needs (BPN) differ by gender. Male athletes have a higher BPN than female athletes.
- According to emotional attribution theory, when feeling a negative experience, males complain about the external environment and females tend to complain about themselves.
- Females tend to attribute more negative experiences to self-deficits and inadequacies, and due to differences in brain structure, females also have a greater susceptibility to negative emotions, which may result in lower BPN.

Kolar, E., Pavletič, M. S., Smrdu, M., & Atiković, A. (2017). Athletes' perception of the causes of injury in gymnastics. *The Journal of Sports Medicine and Physical Fitness*, 57(5). <https://doi.org/10.23736/s0022-4707.16.06228-9>

- Male gymnasts in the study were slightly older than female gymnasts, and therefore had a few more years of training. However, both genders had approximately the same number of training hours per week.
- Possible injury would not be caused by the basic characteristics of training and age.
- The average amount of injuries per athlete is 2.9.
- There was a statistically significant difference in the occurrence of acute and chronic injuries. There were more chronic injuries than acute.
- Gymnasts mostly considered the process and program of training as a main cause for their injuries.
- Athletes training up to 8 hours per week had more acute injuries and chronic injuries was not a component of their participation in sport.
- Athletes training more than 20 hours per week had more chronic injuries and less acute.

López de Subijana, C., Martin, L. J., McGuire, C. S., & Côté, J. (2022). Moderators of the coach leadership and athlete motivation relationship. *European Journal of Sport Science*, 23(3), 404–414. <https://doi.org/10.1080/17461391.2022.2041101>
(Lopez et al., 2022)

- Within this study, younger athletes perceived stronger relationships between transformational leadership, and intrinsic/extrinsic motivation.
- During late adolescence, athletes perceive their coaches' TFL behaviors to relate more strongly to their performance than in early adolescence.
- For athletes aged 12 to 21, when coach TFL is perceived to be higher, athletes showed more sport motivation, than older athletes. This might be explained by the process of maturation, where younger athletes are more predisposed to the influence of coaches' behaviors.
- TFL behaviors as resources are more efficient in terms of their relation to sport motivation when athletes are at a young age.
- Gender did not moderate the relationship between coach leadership and athlete sport motivation.
- Young athletes at the regional and national levels tend to be more receptive to coach leadership, however, the outcomes of coach leadership on sport motivation take time.

Mageau, G. A., & Vallerand, R. J. (2003). The coach–athlete relationship: A motivational model. *Journal of Sports Sciences*, 21(11), 883–904.

<https://doi.org/10.1080/0264041031000140374> (Mageau & Vallerand, 2003)

An autonomy-supportive coaching style is a style in which the coach provides the opportunity for athletes to make their own decisions, as well as the emphasis of task relevance and the acknowledgment of an athlete's feelings and perspective.

The three determinants of a coaches' autonomy-supportive behavior are the coach's personal orientation, the context of the situation, and the athlete's personal behavior and motivation.

Autonomy-supportive behavior has a positive impact on the motivation of an athlete.

Many coaches adopt a controlling coaching style because they either falsely believe it will bring better results, or because they feel like they need to do the difficult and unmotivated behavior of an athlete. Western culture has adopted the mindset that rewards and punishments are the most beneficial way of coaching.

Moreno-Murcia, J. A., Huéscar Hernández, E., Conte Marín, L., & Nuñez, J. L. (2019).

Coaches' motivational style and athletes' fear of failure. *International Journal of Environmental Research and Public Health*, 16(9), 1563.

<https://doi.org/10.3390/ijerph16091563> (Moreno-Murcia et al., 2019)

- Coaches who adopt a motivationally appropriate interpersonal style are more favored by their athletes.
- Coaching styles that reflected high levels of control and limited support for athlete autonomy are associated with an athlete-profile characterized by high levels of fear of failure.
- Coaches who use threats, pressure, and punishment can provoke frustration and burnout which can strengthen an athletes' fear of failure. Conversely, coaches who help shape their athletes through an emphasis on personal progression and improvement can result in a reduction of fear of failure for the athletes.

Olsson, L. F., Madigan, D. J., Hill, A. P., & Grugan, M. C. (2021). Do athlete and coach performance perfectionism predict athlete burnout? *European Journal of Sport Science*, 22(7), 1073–1084. <https://doi.org/10.1080/17461391.2021.1916080>
(Olsson et al., 2021)

Both athlete and perceived coach performance perfectionism positively predict athlete burnout.

Athletes may experience burnout not just because of their own perfectionism, but also because they believe their coach expects and demands them to perform perfectly.

It is important to take the perceived qualities of the coach into account when examining the relationship between perfectionism and burnout.

Rato Barrio, M., Ley, C., Schomöller, A., & Dumon, D. (2021). Mental well-being or ill-being through coaching in adult grassroots sport: A systematic mapping review. *International Journal of Environmental Research and Public Health*, 18(12), 6543. <https://doi.org/10.3390/ijerph18126543> (Rato et al., 2021)

- Athlete well-being is affected and positively influenced by autonomy-supportive environments, satisfaction of basic psychological needs like autonomy, competence, and relatedness, and the coach-athlete relationship quality, as well as social support.
- Autonomy-supportive coaching behavior is associated with need satisfaction, which is associated with various positive mental well-being outcomes, like positive affect, motivation, life satisfaction, resilience, and self-concept. This style of coaching also allows for prosocial behavior towards teammates.
- Autonomy supportive coaching is associated with the quality of the coach-athlete relationship, which relates to the athletes' well-being, stress appraisal, and coping mechanisms. Controlling coaching behavior on the other hand is associated with needs thwarting which can lead to ill-being, eating disorders, depression, negative affect, and physical symptoms.
- The coach should promote an empowering environment, but it is also important to avoid controlling behavior.

Shuer, M. L., & Dietrich, M. S. (1997, February). Psychological effects of chronic injury in elite athletes. *The Western Journal of Medicine*, 166(2), 104–109. Retrieved April 26, 2023, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1304025/>

When it comes to elite athletes, the psychological effects of injury are usually much more intense than those that are not under as much pressure. When you think about the best athletes in the world and the ones everybody looks up to, you think about the athletes that quote the mantras that everybody knows like “no pain, no gain” and “pain is temporary, pride is forever.” Although we all say these things and we use them to motivate ourselves and push through pain, it further solidifies the unspoken rules of sports: injuries are not allowed, pain is disregarded and unimportant, and there are no complaints.

Smith, A. M., Scott, S. G., & Wiese, D. M. (1990). *The psychological effects of sports injuries coping*. *Sports Medicine*, 9(6), 352–369.

<https://doi.org/10.2165/00007256-199009060-00004>

There are psychological effects of sports injuries and coping methods that can be used for them. One of the things this study addresses is the psychological differences between athletes and nonathletes. It talks about how research has shown that athletes who are injured experience both mood disturbances and low self-esteem. One of the coping methods that was discussed was a concrete, problem-focused behaviorally oriented programme, which minimized uncertainty for some of the athletes. Theoretically, this approach is ideal for injured athletes, but the effectiveness of this strategy has not been fully examined. Until these strategies have been fully examined, they are used as therapeutic guidelines for athletes dealing with the emotional distress that comes with injury.

Souter, G., Lewis, R., & Serrant, L. (2018). Men, mental health and elite sport: A narrative review. *Sports Medicine - Open*, 4(1). <https://doi.org/10.1186/s40798-018-0175-7>

This narrative review talks about the issues with men and their mental health in elite sports, and how these issues have come to more light recently due to more men sharing their experiences. Injury in sports is a big risk factor for psychological distress in male athletes. When you take injury and add it into the fast pace of elite sports, stress can and usually will be amplified, and performance within these sports will be affected. It may be thought that this kind of physical and psychological stress may end once the sporting career ends, however, another point to be made by this review would be that this is untrue. Unfortunately, the demands placed on these male athletes, both physically and psychologically may affect them long after they are done with their sport, and these very stressors may put them at risk for developing depression later on in life. To make matters worse, for an athlete that is still in their sport, as these mental health symptoms intensify, their performance may be negatively affected, which can put them at further risk for developing even more symptoms of other mental health disorders. This review also highlights the pressure of performance in elite athletes and how it can lead to things like overtraining, eating disorders, and the use of substances. Although many athletes have shared their experiences after their time in elite sports had ended, there are many more athletes who choose to remain silent. There is still the stigma that male athletes who speak up about mental health issues, may be seen as weak, and there is still lots of work to be done when it comes to encouraging men to speak up about their experiences.

Thelwell, R. C., Wagstaff, C. R., Chapman, M. T., & Kenttä, G. (2016). Examining coaches' perceptions of how their stress influences the coach–athlete relationship.

Journal of Sports Sciences, 35(19), 1928–1939.

<https://doi.org/10.1080/02640414.2016.1241422>

- Coaches' and athletes' emotions, cognitions, and behaviors are interdependent in the coach-athlete relationship.
- Coach stress might have an influence on the emotional and psychosocial climate of the entire sports environment.
- The reported influence of coach stress on athletes' and coach perceptions of effectiveness appear to emphasize an inability of coaches to manage stress and emotions in challenging situations.
- It is necessary for scholars to consider coping and stress management strategies and techniques for both training and competition.
- Interventions aimed at increasing a coaches' awareness of their behaviors during when they are not stressed in addition to their key signals of stress may provide a useful measure to enhance their effectiveness in stress management, emotional stability, and increased self-awareness, which would limit any potential issue that may arise from their stress being transferred onto athletes.
- A coaches' stress may be associated with a decrease in athletic performance, and athletes are usually able to detect this change in attitude and behavior.

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Ardern, C. L., Taylor, N. F., Feller, J. A., & Webster, K. E. (2012). A systematic review of the psychological factors associated with returning to sport following injury. *British Journal of Sports Medicine*, 47. 10.1136/bjsports-2012-091203.

This review highlights some psychological factors and how they are associated with recovery and rehabilitation following injury. The main goal of the article was to identify psychological factors and how they are associated with returning to sports following injury. This review found that there is preliminary evidence to support that positive psychological responses were associated with a higher return to sport rate after injury. Overall, there is empirical evidence to suggest that psychological factors are very important determinants of how successful or unsuccessful someone is at returning to sport after injury. These psychological factors should also be important for doctors/therapists when deciding if an athlete can/should return to their sport. However, due to the high risk of bias that was identified in some of the studies included in this review, there should also be some greater evaluation of the relationship between psychological factors and returning to the sport.

Johnston, L. H. (2000). The psychological impact of injury: Effects of prior sport and exercise involvement. *British Journal of Sports Medicine*, 34(6), 436–439.

<https://doi.org/10.1136/bjism.34.6.436>

The goal of this study was to test the assumption that the psychological impact of injury may vary depending on the person and their involvement in sport and/or exercise, and that those who are more involved in their sports/exercises before they are injured would experience a more negative effect and delayed recovery. In this study, physiotherapy patients completed a multitude of questionnaires which included a measurement of their mood and their perceived recovery at the beginning, middle, and end of rehabilitation. All the data was available for all 93 of the patients that participated. The results of this study found that, just like the previous assumption, those who were more involved with their sports and exercise seemed to have higher levels of confusion, and they found their recovery to be slower. This may be a result of needing more information and the relationship between the current status and that before the injury in the athletic sample being mismatched. Unlike the assumption, negative effects did not vary with sport and exercise involvement. Overall, this study found that those not involved in sport and exercise have the same affective impact as those more considerably involved. Those with considerable involvement however did seem to report higher levels of confusion and less perceived recovery toward the end of therapy. We know from this study that it may be important to assess reactions and perceived recovery during the re-entry phase of rehabilitation.

Magyar, M. T., & Chase, M. A. (n.d.). Psychological strategies used by competitive gymnasts to overcome the fear of injury. USA Gymnastics. Retrieved April 26, 2023, from <https://www.usagym.org/pages/home/publications/technique/1996/10/fear.pdf>

This article talked about the intensity level of gymnastics and how the demanding nature of the sport can cause gymnasts to be afraid of getting injured when practicing and learning new skills. This fear of injury can not only cause a delay of progress when it comes to being prepared for competition, but it can also influence performance and cause an issue with self-confidence and self-esteem, which can be dangerous when doing a sport where every half a second and inch matters. It is also important to note that fear of injury is a common reason for gymnasts leaving the sport. Another thing this article talked about was self-enhancing perspectives vs self-defeating ones. It's critical for any athlete, but gymnasts especially to be able to maintain some control and handle their fear correctly when put in high pressure situations. Not being able to control fear in this sport is more likely to cause injury than simply not doing a skill correctly. By self-enhancing perspectives we are talking about things like thought-stopping, imagery and relaxation, and positive self-talk. When putting these practices into play, the athlete will learn to focus more on the present, relevant information, and feeling relaxed, rather than feeling tensed and controlled by fear. In addition to improving concentration, these strategies allow for enhanced self-confidence, which in turn improves performance.

Nemeth, R. L., von Baeyer, C. L., & Rocha, E. M. (2005). Young gymnasts' understanding of sport-related pain: A contribution to prevention of injury. *Child: Care, Health and Development*, 31(5), 615–625. <https://doi.org/10.1111/j.1365-2214.2005.00530.x>

This article talked about the difference between pain that signals impending injury, and pain that comes from practicing and a heavy physical workload. Most people have heard of athletes practicing, playing, and competing through injuries. This comes from the misunderstanding of the different functions of pain. The different functions of pain pose a challenge for athletes that want to improve their performance and their level of conditioning without injury. This challenge, however, may pose a threat to younger children who do not fully understand the difference in the value and the different functions of pain, or to athletes that believe they have to endure pain in order to become successful, due to social factors like pressure from their peers, parents and coaches. Any of these factors may eventually lead to situations where younger athletes may suffer injuries that could have been prevented because they ignored their bodies warning signals of pain. It is also important to note that because younger players' actions are usually decided by their coaches and parents, it is crucial for these adults to be cognizant of the cognitive limitations that children have in regard to the causes and the meaning of pain.

Norcross, M. F., Johnson, S. T., Bovbjerg, V. E., Koester, M. C., & Hoffman, M. A.

(2016). Factors influencing high school coaches' adoption of injury prevention programs. *Journal of Science and Medicine in Sport, 19*(4), 299–304.

<https://doi.org/10.1016/j.jsams.2015.03.009>

This study was about focusing on factors related to non-adoption of injury prevention programs by examining coaches' knowledge, attitudes, and behaviors related to these programs and comparing the attitudes between those who adopt the programs, and those who don't. This was a cross-sectional study and it included 141 soccer and basketball coaches from 15 Oregon high schools. The study found that of the 66 respondents, more than half (52%) reported being aware of injury prevention programs, 21% reported using one of these programs with their team, and 9% reported having their student-athletes perform the injury prevention program exactly as it was designed. There were no significant differences between the attitudes toward the importance or the effectiveness of injury prevention programs between the coaches that did or did not adopt them. Some of the key factors that emerged when it came to coaches not adopting the programs were that injury prevention programs either do not offer a relative advantage over coaches' existing practices, do not align with coaches' needs' and are too difficult to implement in their setting. Overall, this study found that improving injury prevention practices is more than just the coaches' awareness about the programs. In order to improve the rate of injury prevention practices, there has to be more education about the relative advantage, compatibility, and complexity of these programs and practices.

Rees, H., Matthews, J., McCarthy Persson, U., Delahunt, E., Boreham, C., & Blake, C. (2021). Coaches' attitudes to injury and injury prevention: A qualitative study of Irish field hockey coaches. *BMJ Open Sport & Exercise Medicine*, 7(3), 1-9.

<https://doi.org/10.1136/bmjsem-2021-001074>

Putting injury prevention into play when it comes to practice can be a challenge. Coaches play a very key role when it comes to sport environments and preventing injury in athletes. The goal of this study was to examine the attitudes of field hockey coaches to injury and injury prevention. In this study, thirteen field hockey coaches were interviewed. The study found that although coaches had a positive attitude when it comes to the benefits of injury prevention over injury management, they lacked the necessary knowledge and skills to implement injury prevention strategies with players successfully. Coaches recognized the importance of athletes self-managing their training loads in order to promote injury prevention, but they also acknowledged that it's important to protect younger players from increased training loads. This study also found that multiple barriers to injury prevention were not controllable by coaches. Although coaches may play a key role in implementing injury prevention strategies and protocols, there may also be a requirement to examine how barriers to injury prevention on a systematic level can be reduced.

Yang, S. X., Cheng, S., & Su, D. L. (2022). Sports injury and stressor-related disorder in competitive athletes: A systematic review and a new framework.

Burns & Trauma, 10. <https://doi.org/10.1093/burnst/tkac017>

As most people who are in sports know, injury is one of the most determining factors when it comes to the duration and quality of an athlete's career. This article looked at research on sports injuries and stressor-related disorders and it looked to tackle three questions: do physical injuries caused by competitive sports lead to acute or posttraumatic stress disorder for athletes? What diagnoses are currently available for sports injury related traumatic stress disorder? (3) What kinds of psychological rehabilitation are available for trauma-related symptoms in sports injury? How efficient are they in alleviating these symptoms? There were multiple articles included in this study, and they found that athletes who suffer from sports injuries are more likely to experience abnormal physiological or psychological stress responses, which may become an issue for athletes who wish to continue their sports at a competitive level. Due to the fact that there is a minimal understanding of sports injury-related stress disorders from a biological level, it's hard to find a basis for diagnosis, screening and treatment. For this reason, the treatment for those that struggle with these disorders is very subjective, and it is not much different from treatment for the general population.

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Table 1.*Findings from the Systematic Review*

Authors	Objectives	Participants	Connection to Research Question	Methodology	Results that help answer research question
Adirim, T. A., & Cheng, T. L.	To look at injuries in young athletes.		Talks about injuries in sport.	Existing Data	As more children participate in sports and other recreational activities, acute and overuse injuries are on the rise.
Aron, C. M., Harvey, S., Hainline, B., Hitchcock, M. E., & Reardon, C. L.	To look at post-traumatic stress disorder and other trauma-related mental disorders in elite athletes.		Talks about the effect of physical injury and other factors on an elite athlete's mental state.	Existing Data	Athletes may show greater rates of PTSD and other disorders than non-athletes for reasons like trauma incurred through physical injury. It is hard to recognize since it masks other trauma related disorders.
Carson F, Blakey M, Foulds SJ, Hinck K, Hoffmann SM.	To determine how behaviors and actions of a coach can foster a positive coach-athlete relationship	8 articles	Talks about how the coach can influence the training environment, as well as the impact the coach has on the coach-athlete relationship.	Existing Data	The results of this study show support that the coach-athlete relationship is a dyadic interaction that is led by the actions and behaviors of the two involved parties.
Cartoni, A.C., Minganti, C., & Zelli, A.	To determine how gender, age, and professional level differences affect fear of injury	186 Italian gymnasts, both male and female.	It talks about anxiety and fear of injury in gymnastics specifically.	Qualitative: Self-Efficacy Questionnaire	The results showed that males were less anxious than females. And young athletes were more anxious than late adolescents.

Chase, M. A., Magyar, T. M., & Drake, B. M.	To look at strategies to combat fear of injury.	10 female gymnasts aged 12-17 years	Look at fear of injury and strategies to overcome it.	Qualitative: Interview	As an athletes' skill level increases, so does the likelihood of injury. As this increases, the gymnast will experience increased mental demands associated with the high risk of injury. This could cause hesitation, anxiety, and/or fear when having to perform a new skill.
Choi H, Jeong Y, Kim SK.	To examine the relationship between coaching behavior and athlete burnout.	347 Korean active collegiate athletes from 10 sports.	Look at how the coach-athlete relationship can affect athlete burnout, thereby affecting injury in athletes.	Qualitative: Questionnaire	Autonomy-supportive coaching was positively related to communication, whereas controlling coaching was negatively related to communication.
Davis L, Appleby R, Davis P, Wetherell M, Gustafsson H.	To look at how the coach-athlete relationship affects athletes in terms of exhaustion as well as physical and cognitive performance.	Male and female athletes representing seven teams across four different sports	It talks about the coach-athlete relationship as the psychological consequences to it.	Qualitative: Participants provided saliva samples measuring cortisol as a biomarker of acute stress response and completed questionnaires measuring exhaustion, and coach-athlete relationship quality.	Structural equation modeling revealed a positive relationship between the quality of the coach-athlete relationship and Stroop performance, and negative relationships between the quality of the coach-athlete relationship and cortisol responses to high-intensity exercise, cognitive testing, and exhaustion.
Davis L, Jowett S.	To determine how the coach-athlete relationship influences an athlete's well-being.	192 athletes	Touches on the importance of the coach-athlete relationship.	They completed a questionnaire measuring their attachment styles and relationship quality with the coach as well as their	On average, athletes reported low to moderate levels of attachment anxiety and avoidance, and high levels of attachment security. Athletes also reported to

				feelings of positive affect (PA) and negative affect (NA).	experience high levels of perceived social support and relationship depth and lower levels of relationship conflict.
Fischerauer, S. F., Talaei-Khoei, M., Bexkens, R., Ring, D. C., Oh, L. S., & Vranceanu, A. M.	To look at the relationship between fear avoidance and physical function and pain intensity.	130 athletes	It talks about how fear avoidance can affect responses to injury.	Qualitative: participants completed the athlete fear of avoidance questionnaire	In athletes that are injured, fear avoidance is independently associated with decreased physical function, whereas pain catastrophizing (magnifying the threat value of pain or an injury) is associated with high pain intensity.
Gómez-López M, Ruiz-Sánchez V, Granero-Gallegos A.	To examine fear of failure in athletes.	479 handball players aged 16-17 years old	Talks about fear of failure which can lead to a fear of injury and injury itself.	Qualitative: Participants answered the Perceived Motivational Climate in Sport Questionnaire, the Peer Motivational Climate in Youth Sports Questionnaire, and the Performance Failure Appraisal Inventory.	The results revealed that the task-involving training climate predominates in both genders over the ego-involving training climate, particularly in girls and in less experienced players.
Grindem H, Myklebust G.	To look at how athletes' put their well-being in danger and why it's not ok.		Talks about how athletes push themselves beyond their limits for a chance to succeed.		Physical therapists play an important role in the health of athletes while in and out of their sport.

Gucciardi DF, Stamatis A, Ntoumanis N.	To examine how controlling coaching impacts athletes	232 female netballers aged 11 to 17 years old with between 1 and 15 years of experience	Examines a controlling coaching style and the effect it has on an athlete's physical and mental well-being, as well as the coach-athlete relationship.	Qualitative: A cross-sectional survey	Controlling coaching was inversely related with experiences of vitality and learning, mental toughness is positively associated with psychological experiences of thriving, mental toughness moderated the effect of coach's controlling interpersonal style on learning but not vitality experiences.
Gustafsson H, Sagar SS, Stenling A.	To examine the relationship between fear of failure, psychological stress, and burnout.	258 athletes (152 males and 108 females)	It talks about fear of failure and the impact it has on athletes.	Performance Failure Appraisal Inventory, the Athlete Burnout Questionnaire, the Perceived Stress Scale	Results showed in a variable-oriented approach using regression analyzes that one dimension, fear of experiencing shame and embarrassment had a statistically significant effect on perceived psychological stress and one dimension of burnout, reduced sense of accomplishment.
Hu Q, Li P, Jiang B, Liu B.	To examine the impact of controlling coaching on an athlete's fear of failure.	252 active athletes	Talks about a controlling coaching style and how it can influence an athletes' fear of failure which in turn can influence other determinants of an athlete's performance.	Qualitative: A questionnaire survey was administered using scales for fear of failure, controlling coaching style, sport commitment, and basic psychological needs.	The results indicated that a controlling coaching style was negatively correlated with basic psychological needs and indirectly affected athletes' fear of failure via basic psychological needs and constrained commitment.
Kolar E, Pavletič MS, Smrdu M, Atiković A.	To look at the reasons athletes believe injuries happen	63 athletes: 20 in men's artistic gymnastics, 21 in	Looks at causes of injury according to the athletes, such as poor technique, improper methods of	Qualitative: Self-assessment method	184 injuries were found, 67 were acute and 117 were chronic. Psychological factors significantly associated with the prevalence of injury in both sexes for all

		women's artistic gymnastics, and 22 in rhythmic gymnastics	teaching, and inadequate load,		disciplines were: a poor technique, improper methods of teaching, and an inadequate load.
López de Subijana C, Martín LJ, McGuire CS, Côté J.	Examines the coach-athlete relationship.	303 athletes, 49.7% women and 50.3% men.	Talks about the coach-athlete relationship and how factors like age, gender, competition level, and time spent with the coach can affect it.	Qualitative: They responded to questionnaires pertaining to their coaches' leadership behaviors and their own sport motivation.	Younger athletes perceived stronger relationships between coach leadership, and intrinsic/extrinsic motivation.
Mageau GA, Vallerand RJ.	Talks about how the coach may influence an athletes' motivation.		Talks about how coaches' may influence their athletes' motivation which will undoubtedly have an impact on their mental and physical well-being as well as their performance.	Existing Data	Coaches who support their athletes' autonomy, provide structure and are highly involved create an optimal environment for the satisfaction of their athletes' needs of autonomy, competence and relatedness.
Moreno-Murcia, J. A., Huéscar Hernández, E., Conte Marín, L., Nuñez, J. L.	To talk about how coaching styles influence fear of failure.	340 athletes at the Federation Level	Discusses coaching styles and the correlation between that and an athletes' fear of failure, which can affect other	Qualitative: Athletes completed questionnaires related to fear of failure in sports as well as their perceptions of the extent to which their coaches provided	The results revealed a significant and positive relationship between coaches' controlling style and athletes' fear of failure whereas coach autonomy support was associated with reduced fear of failure.

			aspects of performance.	support for athlete autonomy and control.	
Olsson LF, Madigan DJ, Hill AP, Grugan MC.	Examines if coach and athlete perfectionism predict athlete burnout.	190 competitive adult athletes	Talks about perfectionism and burnout which is important in regard to fear of failure and injury.	Qualitative: Completed measures of their own performance perfectionism (self-oriented, socially prescribed, and other-oriented performance perfectionism), perceived coach other-oriented performance perfectionism, and burnout symptoms.	Regression analyses indicated that both athlete self-oriented and socially prescribed performance perfectionism positively predicted athlete burnout.
Rato Barrio M, Ley C, Schomöller A, Dumon D.	Examines mental well-being or ill-being through coaching	52 studies	Talks about the coach and athlete relationship and the impact on athlete performance	Qualitative: The review includes 52 studies with different methodological and theoretical approaches and mental health outcomes.	Controlled coaching behavior is associated with ill-being, eating disorders, burnout, depression, and physical symptoms, Autonomy-supportive coaching behavior is associated with mental well-being.
Shuer, M. L., & Dietrich, M. S.	Look at how chronic injury affects elite athletes.	280 inter-collegiate athletes	Look at chronic injuries in athletes.	Qualitative: A self-report battery, the Impact of Event Scale	134 out of 280 athletes were injured. 17 of the injured said they had been injured for less than a week or had recently had surgical treatment. The acutely injured group had an even gender balance of 9 men and 8 women while the chronically injured group contained 72 women and 45 men.
Smith, A. M., Scott, S. G., &	Look at the psychological effects of sports injuries coping.		Discusses how athletes react to and cope with injuries.	Existing Data	The least injured athletes maintained a positive mood while the most injured athletes experienced mood disturbance.

Wiese, D. M.					
Souter, G., Lewis, R., & Serrant, L.	Discuss men and mental health in elite sport.		Discusses psychological aspects of male athletes in sport.	Existing Data	Although male athletes will discuss psychological issues whilst they are undergoing treatment for injury, more work needs to be done to encourage them to open up and discuss their emotions, concerns and anxieties.
Thelwell, R. C., Wagstaff, C. R., Chapman, M. T., & Kenttä, G. (2016)	Examining the relationship between coach stress and the coach-athlete relationship	12 coaches	This article touches on coaches' stress levels and how it affects athletes.	Qualitative: Semi-structured interviews to investigate the 3 study aims: how they perceive athletes to detect signals of coach stress; how they perceive their stress experiences to affect athletes; and, how effective they perceive themselves to be when experiencing stress.	Data suggested that coaches perceived athletes able to detect when they were experiencing stress typically via communication, behavioral, and stylistic cues.
Yang, S. X., Cheng, S., & Su, D. L.	Looking at sports injury and stress related disorders.	16 articles	It looks at if physical injury contributes to stress disorders in athletes.	Electronic databases: PubMed, MEDLINE, CINAHL, etc.	Athletes who suffer from sports injuries are more likely to experience abnormal physiological or psychological stress responses.