

Practical Applications of Mindfulness Techniques in Sport

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Mindfulness has been practiced for millennia. More recently it has gained popularity in the Western world and as a result its application to sport and athletic performance has been of interest. While studies concerned with traditional forms of mental training have shown mixed results on athletic performance, mindfulness has recently emerged as a potentially beneficial tool to enhance the performance of athletes.

The aim of this project was to determine whether mindfulness has positive outcomes on athletic performance and the overall wellbeing of athletes and coaches. The method used to collect the data was a literature review. The tenets of mindfulness that arose from the literature as having a beneficial effect on sport performance and/or wellbeing included flow, deliberate practice, growth mindset and meditation that largely focused on training present moment awareness, focus and concentration.

The findings suggest that by increasing focus, concentration and attention, as well as helping athletes reduce stress and anxiety, diminish athletic burnout and improve cognitive function, mindfulness training correlates positively to performance in sport. The difference of mindfulness training approaches in comparison to traditional mental training programs is that it largely focuses on accepting injury, pain or stress and learning to manage and move past them rather than ignore or block unpleasant experiences.

As a result of the findings from the literature review, a practical guide incorporating mindfulness practices into sport was produced. The guide incorporates traditional mindfulness training as well as original exercises developed as a result of the research results, that are intended to be specific to sport and athlete-centered. The guide is intended for use by both coaches and athletes looking to improve wellbeing and performance through improving mental aspects of their training. Although interest in mindfulness practices is rapidly increasing, more work is required to “demystify” and legitimize its application in sport.

Keywords

Mindfulness, sport, concentration, performance, wellbeing

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1. Introduction

Mindfulness is a tradition that has been practiced for millennia. Originating in Eastern, Buddhist tradition, it has gained an abundance of interest in recent decades in the Western world. Most research on mindfulness to date has been limited to adult populations and the available literature involving mindfulness and sport is rather limited. However, as interest in mindfulness continues to evolve, so do studies investigating its application in sport. (Mumford 2015, 6-7.) This project aims to discuss the available literature involving mindfulness and the benefits of mindfulness practices in sport and investigate whether mindfulness interventions have a positive effect on sports performance and overall wellbeing.

There are numerous mindfulness definitions from journals and literature that have relevance to this project. As the aim of this project is to provide an understanding about what mindfulness is and how it may be incorporated into sport and not with measuring any particular dimension of mindfulness as construed by a specific definition, several interpretations of the term “mindfulness” are given to offer an overall understanding of the concept.

The most widely cited definition for mindfulness in the literature is that given by Jon Kabat-Zinn. He defines mindfulness as “paying attention in a particular way, on purpose, in the present moment, and non-judgementally. (Kabat-Zinn 1994, 4.) Kabat-Zinn (2005, 24) maintains that mindfulness involves an “openhearted, moment to moment, non- judgemental awareness.”

Dimidjian and Linehan (2003, 230) state that “mindfulness includes a set of skills that are the internal process of observing, describing, and participating in reality nonjudgmentally, in the present moment”. Marlatt and Kristeller (1999, 68) describe mindfulness as “bringing one’s attention to the present experience on a moment to moment basis”, whereas Langer (2000, 220) defines mindfulness as “a flexible state of mind in which we are actively engaged in the present, noticing new things and sensitive to context”.

Bishop, Lau, Shapiro, Carlson, Anderson, et al. (2004, 231) have developed a two part definition of mindfulness, including: (1) “the self-regulation of attention so that it is maintained on an immediate experience, thereby allowing for increased recognition of mental events in the present moment” and (2) “a particular orientation toward one’s experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance”. Finally, an alternative interpretation of mindfulness contends that “mindfulness entails being present and non-judgemental even in the most unpleasant and painful moments“. According to this definition, “the goal is not to change problematic thoughts or emotions, but rather to accept them for what they are – just private experience, not literal truth. (Greco & Hayes 2008, 15-16.)

While slight variants of one another, the definitions of mindfulness point out some central tenets - mainly present moment awareness or attention and a non-judgmental attitude or acceptance (Brown & Ryan 2003, 822; Longshore & Sachs 2015, 117).

There are many terms encased within the definition for mindfulness that have not been defined through scientific terminology, or they lack meanings with a consensus of agreement. The terminology found throughout mindfulness literature includes: attention, purpose, intention, present moment, experience, state of mind, mental event, thoughts, emotions, nonjudgment, acceptance, and openness. As research continues, it would be useful to have a modern, scientific description of mindfulness, based upon verifiable evidence and research. A mindfulness definition that is expressed so that all terms are understood and acknowledged and grounded in science is necessary for future research. (Greco & Hayes 2008, 6.)

Definitions for mindfulness are functional and for research purposes necessary, but the essence of mindfulness cannot be aptly explained in a sentence or two. Defining mindfulness is much like trying to explain to a child what the word “fun” means. It is far more effective to play a game with the child and as he or she is running around with great pleasure, to point out: “this is what fun is.” The same concept can be applied to mindfulness. A few examples of mindfulness have been included that can be cultivated with practice, to further illustrate its meaning. It can be said mindfulness is being practiced when an individual is:

- playing sports, creating music, writing a paper and he or she is completely engrossed in the moment, and in the activity.
- in a highly stressful situation and all senses become heightened and attention is completely focused.
- watching a movie or reading a book and he or she becomes so involved with the characters that their pain or joy becomes his or her own.

During these moments, awareness and concentration are at their highest. While such moments are often spontaneous, mindfulness practice allows for these moments to be cultivated throughout daily life. (Rechtschaffen 2014, 6.)

Athletes who engage in heightened levels of athletic performance commonly refer to it as “being in the zone,” or having moments of “flow.” These terms are often used by athletes and coaching personnel but there is currently no definitive scientific translation to describe these concepts. The characteristics are often the same for athletes, irrespective of their sport and are commonly described as: a time when body and mind are one, having a high degree of skill mastery, deep concentration, emotional flexibility, enhanced self-confidence, present moment focus, low self-consciousness, ease of effort, relaxation, and self-transcendence. Mindfulness awareness in many ways mirrors the descriptions given by athletes of being in

the zone. Both are characterized by deep levels of focus, relaxation and connection of mind and body. Incorporating mindfulness practices into athletic training to increase the mental acuity of athletes may enhance sport performance. Therefore, mindfulness training may be significant in helping athletes attain experiences of “being in the zone.” (De Petrillo, Kaufman, Glass & Arnkoff. 2009, 358.)

Mindfulness in sport can be achieved through training focus and concentration. They are fundamentally skills that are teachable and can be learned, much like other athletic abilities. Staying focused for prolonged periods of time can be challenging for all athletes. De Petrillo et al. (2009, 359) argue that to best handle the boring, repetitive, painful aspects of running, runners must find the mind-body connection to perform at their maximum potential. The focus and concentration required for elite levels of performance is articulated by an ultra-marathoner, speaking about peak performance. The athlete referred to instances of personal peak performance as having the ability to concentrate, of letting thoughts move in and out of the mind and focusing on the breath and sensing the body as it moved through moments of good and bad running form. This description of focus and concentration essentially contain the facets of mindful meditation. It may be argued that by incorporating mindfulness practice into training, athletes may more easily achieve such states of elite performance. (De Petrillo et al. 2009, 358.)

Research has increasingly shown that practicing mindfulness also enhances immune response, aspects of cognitive function, attention abilities and emotional regulation – all important to performance in sport. Additionally, youth practicing mindfulness have been shown to have higher test scores, improved impulse control, and enriched wellbeing. While mindfulness offers benefits for athletes on the field, the benefits reach beyond the athletic arena by increasing overall wellbeing and health. (Rechtschaffen 2014, 4-5.)

While coping with stress is common for athletes, it can often have an enormous impact on athletic performance. The negative consequences of stress may be minimized by mindfulness. (Mumford 2015, 15). Mindfulness is established as a technique to raise an individual’s ability to be in the present moment, which increases emotional stability and reduces stress and anxiety. Furthermore, mindfulness training in a group setting can provide a team with the ability to work better together. (Longshore and Sachs 2015, 130; Baer 2003, 127.)

In addition, mindfulness is connected to heightened levels of flow, flexible thought processes, emotional regulation and reduced anxious moments. Research is also continually becoming clearer about its ability to improve sports performance. (Longshore & Sachs 2015, 130; Birrer et al. 2012, 80.) Although the data supporting the benefits of mindfulness for athletic performance is promising, the research is still in the

embryo phase and the need to understand the benefits and best practices of mindfulness meditation for athletes is ongoing (Worthen & Luiselli 2016, 179).

The very first mindful meditation program intended for a competitive, athletic context was implemented with Olympic level rowers. Their program ranged from 2-week to 7-month mindfulness meditation periods. The rowers were given formal, sitting meditation practices to perform as a group and also instructed to practice individually. There were additional meditation practices before races. The meditation sessions were closely related to the athletes' tasks of rowing, with specific emphasis targeting their stroke cycle and techniques to stay focused during races. Following the mindfulness intervention, the athletes claimed that they improved their ability to concentrate, relax, and were able to decrease their fatigue and negative thought patterns. Overall, the athletes themselves believed the mindfulness sessions had contributed to a higher level of performance. (De Petrillo et al. 2009, 359.)

It is evident that mindfulness as a training tool is quickly gaining interest in sport. This project aims to explore the scope of current research in mindfulness, as it pertains to performance in sport in order to create a tool that can be used by athletes and coaches to increase performance, concentration, awareness and overall wellbeing using mindfulness interventions in training.

2. Related terms and interventions

2.1. Flow

The term “flow” has been popularized by Hungarian psychologist Mihaly Csikszentmihalyi. He claims that while people have been seeking happiness for thousands of years, they are no closer to understanding its attainment today than people were in Aristotle’s time, thousands of years ago. According to Csikszentmihalyi, happiness is not something that just happens. It is not acquired through good fortune or random chance. Rather, Csikszentmihalyi argues that it is something that we must strive and struggle to achieve. One must make a plan to find happiness and then nurture and grow it once it is found. (Csikszentmihalyi 1990, 1-22.)

Flow is characterized as a state where an individual is so immersed with an activity that nothing else seems to matter. It is so enjoyable that a person in flow may forgo eating or sleeping to continue their activity, merely for the sake of doing it. This feeling can be achieved several times a day if it is accompanied with the right frame of mind. Arguably, if one is not achieving a flow state many times over the course of a day, then we are essentially allowing much happiness to escape us. A state of flow may ultimately be reached when we accept the challenge to improve ourselves. (Csikszentmihalyi 1990, 1-22.)

Creating goals is fundamental to reaching both personal and athletic accomplishments. Goal setting is the first step towards attaining happiness. Each individual must find the aspects in his or her life that are of greatest personal importance, in order to improve the quality of their lives. Once needs and desires are determined, achieving a high level of happiness may then become a reality. Becoming consciously involved in every aspect of one’s life, whether it is good or bad, creates more happiness. Working on the things that come easily or naturally to us, as well as the things that present challenges and are most difficult can both create happiness. Csikszentmihalyi contends that the situations where people push themselves to their maximum capabilities in an effort to accomplish something truly difficult and worthwhile, is where the greatest sense of pleasure is attained. When we take on challenges and new opportunities to grow, we extend ourselves mentally and physically in dramatic ways that immensely enrich our lives. Therefore, the activities that were the most difficult and unpleasant are the ones that we often look back upon with greatest reverence. (Csikszentmihalyi 1990, 1-22.)

Flow occurs when there is a balance of challenges and perceived skills. The individual wants to match their current skill level with the challenge, not wanting the challenge to be too hard nor too easy. When this balance is achieved, flow qualities are present, and include elements such as: centering of attention, greater sense of control of internal and external situations, lower self-consciousness, perceived loss of time,

heightened awareness and a higher degree of intrinsic motivation. Individuals who engage in flow moments describe their performance as optimal. Research has found that athletes who have peak performance moments are more relaxed, have higher energy, focus on the present moment more easily, are more aware, feel more in control, and are less distractible. These facets associated with being in a state of flow share many of the same qualities as people who engage in mindfulness practices. (Kaufman et al. 2009, 335.). An increasing amount of research and literature have indicated that mindfulness can increase flow and performance in athletic pursuits (Cathcart et al. 2014, 120). Hamilton and Schutte (2016, 100) found that flow boosts enjoyment of sport and feelings of wellbeing while involved in sport, as well as increasing performance.

Research indicates that mindfulness and flow are connected in athlete populations (Cathcart et al. 2014, 139). However, there are certain “road blocks” that prevent individuals from achieving flow states in sport. The most commonly recognized impediments to flow are: over-thinking, being too interested in what others are doing, being too concerned with the thoughts that others are having of one’s self and stressing about other competitors. Therefore, the evidence indicates that flow requires a present-moment, non-selfconscious focus on the current task. Research indicates that in order to attain flow and heightened performance, one must maintain a present moment concentration. Concentration, therefore, is a critical factor in the acquirement of flow states. (Cathcart et al. 2014, 120-121.) The similarities between flow and mindfulness are clear as both state the significance of concentrating on the present moment. (Aherne, Moran, & Lonsdale 2011, 179.) Flow is a massively desirable state but one that is challenging to attain without the right mindset. Flow is described as the absolute focus at the task at hand as well as elevated performance. Flow has been researched a great deal since the early 1990’s in sport psychology and can be measured in practices and competition. (Aherne et al. 2011, 179.)

There are nine identifiable elements to flow, three of which are flow conditions: challenge-skill balance, clear goals, and unambiguous feedback. When these three conditions are met, the opportunity to engage in a flow state becomes possible. A flow state involves several tenets, including: concentration on a task, action-awareness merging, loss of self-consciousness, sense of control, transformation of time, and autotelic experiences (having a purpose in and not apart from itself). Together, these conditions allow flow to facilitate a greater sense of wellbeing and an increase overall performance. (Aherne et al. 2011, 179; Hamilton & Schutte 2016, 100; Briegel-Jones, Knowles & Eubank 2013, 351.)

2.1.1. Flow in sport

Once athletes begin to fully engage the present moment, things seem to slow down and the playing field or arena becomes easier to gauge. This is commonly referred to as being in the zone or acquiring flow. Mindfulness training can help athletes reach many moments of flow throughout their training sessions. (Mumford 2015, 18.)

Providing athletes with the tools necessary to attain flow as often as possible, enabling them to begin living in the present moment and helping them to respond and adapt to changes on and off the sports arena rather than resisting them are the ultimate goals of teaching mindfulness. One way of introducing mindfulness practice into training is through yoga and meditation. Through meditation and yoga, athletes learn to listen to their bodies. These techniques not only help athletes with becoming more mindful but they can also help lessen the effects of chronic pain and depression, by teaching individuals ways of adapting their behaviour rather than resisting and escaping from pain and suffering. By becoming more attuned with the body as mindfulness practice insinuates, the needs of the body and mind are more clearly expressed and we can begin to tend to those needs in a more productive manner. (Mumford 2015, 45.)

Meditation and yoga both train focus, or the capacity to concentrate on the challenge at hand, while dismissing disturbances. Focus, therefore is an essential competency required by athletes who intend to have great success in athletic endeavours. (Aherne et al. 2011, 177.)

2.1.2. Practical application of flow in sport

Teaching flow using mindfulness can be approached in a variety of ways. The central concept is to help athletes to gain present moment awareness and maintain focus and concentration while improving athletic performance. (Cathcart, McGregor & Groundwater 2014, 119-120.) Achieving flow may be challenging for many athletes. Techniques that have had mixed results are arousal regulation, goal setting and self-talk. However, mindfulness practices have been shown to increase flow experiences. The fact that the tenets of mindfulness and flow are so closely related ties them together, as the main component of each is to have present moment awareness. (Cathcart et al, 2014, 120.)

Long distance runners have experienced positive results when taught to concentrate on bodily cues such as breathing, internal and external temperatures and overall body sensations. This practice allows athletes to foster an acceptance of the sensations of the body in a non-judgmental way. Conscious breathing techniques are also used in mindfulness yoga practices. (Aherne et al. 2011, 178.)

Yoga has been practiced for thousands of years and is used as a method to develop mind-body discipline. The practice of yoga involves many aspects, including posture practices, meditation, breathing exercises, and relaxation. The poses and postures help to strengthen, stretch and relax the muscles of the body. In order to calm the mind, breathing exercises are used. (Cook-Cottone, Tribble & Tylka 2013, 130.) Individuals who practice yoga may be more responsive to mindfulness practices, increasing the overall likelihood of experiencing flow states (Briegel-Jones et al., 350). As stated by Csikszentmihalyi (1990, 106), “it is not unreasonable to regard yoga as one of the oldest and most systematic methods of producing the flow experience.” Yoga is proving to be an excellent discipline for athletes wishing to develop present moment awareness through a state of calm focus. Mindfulness yoga uses both the physical and mental aspects of yoga that allows the participant to cultivate a greater awareness of the mind and body connection. (Briegel-Jones et al. 2013, 350.)

Studies suggest that there are positive effects of mindfulness yoga training as a performance-based intervention. Yoga is a useful method in the development of healthy minds and bodies. The health benefits for individuals practicing yoga are seen in physical, mental, emotional and spiritual aspects of life. The recorded benefits of yogic practice are increased strength, flexibility, agility and endurance. A greater sense of wellbeing and improved mood, along with reduced stress and anxiety have been established to accompany those that regularly practice yoga. The application of yoga practices in the athletic world has been proven to offer benefits to athletes. These benefits include helping athletes attain a higher level of relaxed concentration, enhanced flexibility, and improved body awareness. (Briegel-Jones et al. 2013, 350.)

There is a growing body of research suggesting that yoga can improve mindfulness among athletes, resulting in a positive effect on sports performance. The Mindfulness-Acceptance Commitment (MAC) approaches more recently used in sport, uses yoga as one of its main program components. Mindful Sport Performance Enhancement (MSPE) approaches have also found positive gains in performance and wellbeing due to the incorporation of yoga practices. (Briegel-Jones et al. 2013, 350.)

2.2. Deliberate practice

Deliberate practice is a highly structured activity concerned with the specific goal of improving performance. Deliberate practice can be understood as supreme focus on a specific task that can only be done for brief periods of time because the concentration required is so fatiguing. The main theme in deliberate practice is the assumption that a high level of performance is the result of time spent practicing rather than on mere innate ability. Deliberate practice is different from work, play and simple repetition of a task. It

requires complete focus and concentration. It is an activity that is inherently unenjoyable. When one is engaged in deliberate practice, improving performance over a long period of time is the ultimate goal. Deliberate practice is often the most difficult task an athlete must perform. However, it may present opportunities for the coach or athlete to create new and exciting training techniques that make the most arduous tasks more enjoyable (Ericsson, Krampe, & Tesch-Römer 1993, 365-367; Anderson & Mayo 2015, 231-232.)

For an athlete to master a skill, he or she must understand the importance of deliberate practice and the best ways to incorporate it into training. There are four essential components to deliberate practice:

1. The participant must be motivated to work on the task and put forth maximum effort to improve performance.
2. The way that the practice is designed needs to consider the pre-existing knowledge of the athlete so that the task can be properly understood after a short amount of instruction.
3. Immediate feedback is required. Performing the task correctly is essential to maximizing the deliberate practice session.
4. The task or similar tasks need to be repeated over a long time period.

Efficient learning is impossible and improvement will be minimal without informative feedback regarding performance during practice. It is not sufficient for athletes to simply practice if they wish to gain skills rapidly. Similarly, continuous repetition of an activity will not lead to improved performance. The practice one is engaged in must be intentional. It must have a direct focus on the skill that is being targeted for improvement. (Ericsson et al. 1993, 365-367; Anderson & Mayo 2015, 231-232.)

Several studies suggest that in order for athletes to achieve high levels of performance and greater states of wellbeing, hard work is required along with maximum focus and concentration. Awareness of the task at hand and acceptance of the present moment are critical for success. Mindfulness, paired alongside with deliberate practice training would benefit the overall performance of many athletes. (Worthen & Luiselli 2016, 178; Kaufman et al. 2009, 337.)

2.3. Growth mindset

The concept that humans possess either a fixed or growth mindset was introduced by Carol Dweck, a Stanford psychology professor. The idea that individuals are able to increase their abilities through hard

work and dedication was the premise of her thesis. According to Dweck, humans are not simply born with fixed traits. Rather, she argues that we can increase our performance in a task with the proper training and mindset. She proposes that an individual having a growth mindset believes that personal qualities can be changed with time and effort. The person with the fixed mindset, on the other hand is under the impression that the qualities we were born with are the qualities we will have our entire lives. In other words, those possessing a fixed mindset believe that their potential was defined the moment they were born. (Dweck 2006, 3-7.)

To teach the growth mindset philosophy to youth athletes, a study was conducted by Evans and Slater (2014) that illustrated to athletes how psychological abilities and characteristics take time to cultivate and with dedication and effort those characteristics could change. The researchers took their guidance straight from Dweck's work, as Dweck speaks of the ability of individuals to grow psychological traits through time and practice. It was important for the researchers to take small steps with the participants, so they could "normalize" sports psychology, thus showing that it is an area of sports science that can benefit athletes just like nutrition, physical training and coaching. By taking a slow approach, the researchers were able to show the youth athletes that sport psychology could enhance their performance. The program used the deliberate practice model developed by Ericsson (1993) to promote pliability of psychological skills to the athletes. (Evans & Slater 2014, 60-61.)

In order to achieve high levels of performance and overall wellbeing, athletes must be encouraged to understand that their talents are malleable. Present moment awareness, living in the moment, acceptance for the moment, and identifying one's individual skill set with a non-judgmental attitude can produce performance results. (Mumford 2015, 98.)

2.4. Power of concentration and meditation

Just as the effects of mindfulness on health are of current interest, there has also been much curiosity on a particular Dutch man (Wim Hof) who, through self-taught meditation techniques appears to have the ability to influence his autonomic nervous system (ANS). The ANS is typically viewed as a physiological system that is beyond the influence of conscious control. However, recent studies using Wim Hof and control groups of individuals trained using his techniques, suggests that it is possible to influence autonomic activity. (Kox et al. 2012, 489.) Using special concentration, breathing and cold-immersion techniques, Hof and other trained individuals have been able to evoke a controlled stress response by activating the sympathetic nervous system that initiates an innate immune response. These responses have been carefully

measured in clinical setting. Such results may have important implications for the treatment of autoimmune diseases that exhibit chronic inflammation. (Kox et al. 2012, 489.)

Hof himself holds several world records in sports related endeavours, such as running the fastest marathon while barefoot on ice and snow, in the Lapland region of Finland. He has also climbed Mount Everest wearing nothing but a pair of hiking boots and shorts. What is noteworthy about such physical accomplishments is that the role of the mind on performance and physical ability is largely still underestimated and unknown. More studies on concentration, meditation and mindfulness on athletic performance should be conducted to optimize training in sport. (Kox et al. 2014, 7380-7831.)

2.5. Psychological Skills Training (PST)

Prior to mindfulness training programs, Psychological Skills Training (PST) programs were used to measure performance in sport. PST refers to “the systematic and consistent practice of mental or psychological skills for the purpose of enhancing performance, increasing enjoyment, or achieving greater sport and physical activity self-satisfaction.” (Weinberg & Gould 2007, 250.) The collected work on psychological skills training has become easily accessible. The methods and techniques and the context they are applied in varies substantially in PST. The majority of the literature does however recognize four main tenets to PST: Imagery, goal-setting, self-talk and physical relaxation techniques. (Birrer & Morgan 2010, 79.)

Of the four primary PST tenets, imagery has possibly been researched and studied the most in regards to the enhancement of athletic performance. A meta-analysis conducted on the benefits of using imagery claimed that it contributed to a heightened level of performance in sport. However, other research has found inconsistent results, even stating that imagery actually had a negative impact on basketball players’ success rates at taking free throws. The traditional method of imagery involves the attempt of controlling or eliminating negative thoughts or emotions. Research continues to insinuate that the manipulation of internal states does not always result in increased performance and may actually decrease performance. Unlike the traditional PST approach, mindfulness meditation does not try to change thoughts but encourages the participant to accept them nonjudgmentally and let them go while maintaining full awareness of all sensations, emotions and thoughts in the present moment. (De Petrillo et al. 2015, 358.)

Two other central themes of PST are goal-setting and visualization. Athletes who practice goal-setting will set and clearly define their performance goals. While athletes report goal-setting as being beneficial, the research is rather unconvincing. Goal-setting can even impede performance if the set goal is unrealistically challenging, because if the athlete is unable to reach their lofty goal, motivation could be hindered. Image-

ry and visualization requires the athlete to play out situations in their mind or think about an athletic task without any muscular movement. The research into the benefits of these practices is inconsistent. (De Petrillo et al. 2009, 358.)

PST approaches highlight the practice of “self-talk.” When athletes engage in self-talk, they actively become aware of cognitions and emotions. In doing so, it is believed that they are motivating themselves to break bad habits and obtain more skills. Detrimental, anxious and tenacious perceptions are targeted in thought stopping in order to interrupt and replace the thoughts with more optimistic and advantageous thoughts. (De Petrillo et al. 2009, 358.)

Thought stopping as a technique requires athletes to attempt to control their thoughts rather than accept what is happening in the mind. As an approach, it has been proven to be counter-intuitive. One explanation is that by suppressing thoughts that one would rather avoid, the thoughts are actually brought more acutely into one’s awareness, thus creating the behaviour that was intended to be suppressed. Not surprisingly, the effect is hindered sports performance. This scenario may be illustrated with an example, as some athletes have indicated “when I thought about not making an error is when I committed the error.” Other psychological techniques attempting to suppress, eradicate or govern negative thoughts and images may have inconsistent results. Avoiding unpleasant thoughts and feelings may give individuals temporary respite from suffering, but by continuing to subdue internal experiences the result may be that the negative thought or feeling comes to the surface more often. The increase in the awareness of these thoughts can have an overall negative effect on performance. Although it is still frequently used but seldom studied, thought suppression continues to be pervasive throughout sports. (Aherne et al. 2011, 178; Briegel-Jones et al. 2013, 350; De Petrillo et al. 2009, 358; Goodman, Kasdan, Mallard, & Schumann 2014, 340.)

It may be argued that the opposite of thought suppression is mindfulness training. Athletes are encouraged not to block out but rather to view distracting thoughts as the normal workings of the mind and accept that these thoughts will pass in and out of the mind regularly. Mindfulness practice therefore is about approaching any given situation and accepting it without judgment while simultaneously being fully aware of it. This line of thinking could be beneficial to athletic performance as it trains athletes to be fully present in the moment at hand and not to look too far into the future. Research suggests that mindfulness is a teachable concentration-related talent that encourages individuals to optimize their focus on the present moment. (Aherne et al. 2011, 179.)

The non-judgemental aspect of mindfulness differs from traditional psychological training in that the aim of mindfulness is not to overpower thinking but rather encourage acceptance of thoughts and situations.

In doing so, individuals are encouraged to accept their feelings rather than suppress or eliminate disrupting sentiments and thoughts. Mindfulness training therefore discourages thought stopping and highlights bodily awareness, often including body centred exercises such as “focused breathing” in practice. PST programs are concerned about the deliberate engagement of bodily cues, whereas mindfulness practices emphasises a more reflexive and non-judgmental acceptance of experienced feelings. (Aherne et al. 2011, 177-178.)

The problem with most traditional PST studies is that each measured feature has not been isolated, whether it be goal setting, visualization, self-talk or relaxation. The studies have therefore failed to identify which traits of PST are beneficial to athletic performance. Mindfulness based interventions have a more tapered approach than the PST programs, as the practice is primarily concerned with maintaining focus and continually bringing attention back to the present moment. (Ivarsson, Johnson, Anderson, Fallby & Altemyr 2015, 322.) The traditional PST mental training techniques have mixed support in the literature. More streamlined studies isolating individual facets of PST are required to determine validity (Gardner & Moore 2006, 15).

Mindfulness differs from the classical examples of Psychological Skills Training in sports psychology which has goal-setting, arousal regulation, self-talk and visualization as its main components (Baltzell & Akhar 2014, 160). PST uses control of the internal state as its main premise. When difficult or unwanted thoughts, feelings, emotions or sensations surface in athletes, they are instructed to control these factors to achieve an ideal state and optimal performance. (Birrer & Morgan 2010, 78.) Data suggests that certain athletes from different sports or from varying psychological perspectives might benefit more from mindfulness based training rather than trying to change or eliminate cognitions, which is what traditional PST methods offer (De Petrillo et al. 2015, 372).

Despite differences, mindfulness practices and PST do share many similarities. Whether it is called Psychological Skills Training or mindfulness, teaching athletes to pay attention and focus on the present moment is not a new concept in sport. Mannion and Anderson (2015, 4) stated,

Many of the interventions in the canon of psychological skills training in sport psychology (e.g., relaxation, self-talk, imagery, concentration) are, at heart, mindful practices. When instructing exercisers and athlete in progressive muscle relaxation, we encourage them to take a passive attitude (e.g., “don’t try to relax; just go with whatever happens,” “when your mind wanders, just come back to focusing on your muscles”) and intentionally and nonjudgmentally pay attention to what is happening when they tense and relax, right now, in the present mo-

ment. Sport and exercise psychologists have been involved in mindfulness practices for decades, and mindfulness is not something new or foreign, but rather, something that sits at the heart of what many practitioners use in PST.

3. Mindfulness for coaches

For coaches to be able to successfully implement mindfulness into their athletes' training, it is important that they participate in their own mindfulness practice (Baer 2003, 131).

Mindfulness studies in sport have been mainly devoted to athletes and the benefits of mindfulness for coaches have not yet been adequately explored. Coaches deal with tremendous amounts of stress. Such stress has been linked to the increased likelihood of burnout, decreased performance and unstable emotions. More research and the development of mindfulness based interventions for coaches is essential for improving on the job performance and overall wellbeing of athletic coaches. One study to date has developed and researched Mindfulness Training for Coaches (MTC). This study aimed to increase mindfulness an emotional stability while reducing stress and anxiety in coaches. The study found the MTC to be an encouraging tool for coaches in reducing stress, increasing wellbeing and improving coach-athlete communications. (Longshore & Sachs 2015, 116.)

Mindful coaches should be willing to shift from an environment of stress, competition, and punishment to one of acceptance, compassion, and reassurance. The benefits of mindfulness in a coaching and sports context help athletes with their focus control, overall wellbeing, and avoidance of knee-jerk type reactions that result in improved impulse control. (Rechtschaffen 2014, 33.)

3.1. Mental training

To optimize performance in sport, coaches must focus on four tenets of their game: tactical, technical, physiological, and psychological. The mental game is often acknowledged as being of great importance but is rarely allocated much time in training. (Longshore & Sachs 2015, 116; Fletcher & Scott 2010, 127.) In the last 50 years, sport psychology research has made historic gains but the debate about its validity and best methods of application are ongoing. As a result, coaches are frequently left confused and insecure regarding training athletes in the mental side of sports. Without sufficient understanding of why or how to train athletes in the psychological aspects of sport, it remains an underutilized aspect of training. (Moore 2009, 292.) In order to help coaches better understand the psychological aspects of their sport it would be beneficial to also train coaches in understanding their own psychology. Until now, researchers have been focused on studying athletes and performance. Since coaches play such an enormous role in athletic performance and the overall wellbeing of athletes, they make an ideal population to participate in mindfulness interventions. (Longshore & Sachs 2015, 116.)

3.2. Training coaches

The study conducted by Longshore and Sachs (2015) was the only study that was retrieved from the available literature focusing on coaches using mindfulness. The scope of research on mindfulness and coaches is exceptionally narrow. Coaches are under great pressure in dealing with the demands of athlete and team dynamics. They must demand a high performance level from their athletes, deal with tactics and team selections while maintaining equanimity and poise. Unfortunately, most coaches are expected to execute these tasks without receiving any training in how to handle stress and setbacks with composure. (Fletcher & Scott 2010, 128.) The intervention of a mindfulness based program would be beneficial for many coaches who deal with high amounts of pressure by helping them manage stress, gain emotional strength and attain a better overall awareness of self. (Baer 2003, 125.)

Elite coaches around the world admit that they lack the proper training to deal with high levels of stress and anxiety, revealing that they may pass their stress onto the athletes they are trying to help. When the leaders of athletic teams and organizations deal with high levels of stress and anxiety it leads to burnout and poor performance - not only for the coaches but for the athletes they train, as well. As coaches are in charge of managing the emotional environment in the sports arena, athletes follow the lead of their coaches. When coaches are emotionally unable to sufficiently deal with difficulties that arise, it is relayed to the players and performance suffers on and off the sports arena. Coaches have disclosed that they commonly place their job of coaching before anything else in their lives, often having a negative effect on their overall wellbeing. (Fletcher & Scott 2010, 128-129; Longshore & Sachs 2015, 117-118.)

Coaches clearly play a significant role in the performance of both individual athletes and teams. While it is certainly important to focus on the performance of athletes, it is also critical to conduct further studies in the applicability and effectiveness of mindfulness training for coaches to increase their performance and overall wellbeing. (Longshore & Sachs 2015, 119). Mindfulness may be an excellent intervention to help coaches respond with greater equanimity in the sports arena, rather than react out of stress or poor emotional control (Mumford, 2015). There is currently very little attention in sport psychology on interventions with coaches (Longshore & Sachs 2015, 119).

3.3. Results of training coaches in mindfulness

In the study conducted by Longshore and Sachs (2015), the coaches who were trained in mindfulness displayed many positive results. The results of the intervention were not also limited to sport. The mindfulness training was also found to add positive benefits to the psychological aspects of the coaches' lives. The

coaches themselves stated that the training had made them more mindful, reduced their levels of stress and anxiety and increased their emotional steadiness in their coaching and personal lives. When compared to the untrained coaches, the mindfulness trained coaches enjoyed lower levels of stress, higher levels of overall mindfulness and greater emotional control. (Longshore & Sachs 2015, 119.)

Increasing the overall wellbeing of coaches and heightening their ability to cope with stress may have similar benefits for the athletes they train (Hanin 2008, 186). The mindfully trained coaches in the Longshore and Sachs (2015) study found an ability to lessen their tendency to be anxious and displayed more emotional balance. They spoke of lower degrees of stress and emotions related to stress and burnout, including confusion, fatigue, anger and depression. The study was able to articulate that with dedication and effort on the part of participants, mindfulness interventions could be an effective way of instituting and sustaining high levels of equanimity and greater emotional equilibrium. The coaches expressed an enhanced ability to find awareness of the present moment, a willingness to accept the present moment as it was and they were able to respond rather than react more frequently. Such findings offer a clear indication that the coaches were engaging in the main tenets of mindfulness. The coaches who participated in the mindfulness intervention found that they had more awareness and noticed that their heightened awareness was having a positive effect on their relationships with athletes. The coaches enhanced their ability to focus on the present moment, deal with difficulties with acceptance, as opposed to overreacting and have the capacity to bring mindfulness into competition to help cope with stress and increase overall wellbeing. All of the aforementioned skills related to increased performance and job gratification, reducing burnout. Training coaches in mindfulness therefore indirectly helps athletes. The mindfulness trained coaches were more aware and developed an ability to communicate and respond to athletes in much healthier and advantageous ways. (Longshore & Sachs 2015, 120.)

4. Applications of mindfulness in sport

4.1. Mindfulness training programs

Three of the leading mindfulness training programs currently being implemented and researched are Mindfulness Sport Performance Enhancement (MSPE), Mindfulness Meditation Training for Sport (MMTS), and Mindfulness Acceptance-Commitment (MAC). The MSPE program bridges mindfulness into sports and everyday life through awareness practices, many disciplines of meditation, and mindful yoga. MMTS highlights nonjudgement of emotions and thoughts, acceptance and teaches athletes to have an open awareness, though caring for themselves and teammates. Deliberate focus is also at the core of MMTS. The MAC philosophy helps athletes to accept their thoughts and emotions before and during competition while at the same time resisting the desire to make experiences different than they actually are. (Worthen & Luiselli 2016, 177-178.)

MSPE, MMTS and MAC have been used to measure results in mindfulness-sport performance research. Results using the MPSE program have shown it to increase overall mindfulness, reduce sport-related stress, and elevate flow experiences. In a study conducted with long distance runners who participated in a 4 week mindfulness intervention, athletes experienced an increase in state mindfulness and awareness and a decrease in sports related anxiety and performance perfectionism, although running performance during the 4 week study showed no improvements. The research indicated that Mindful Sport Performance Enhancement (MSPE) may be a valuable psychological training tool for helping athletes to improve mindfulness, sports related stress and aspects of perfectionism. MMTS programs have similarly been found to increase mindfulness skills overall, and decrease negative thought patterns. (De Petrillo et al. 2009, 357.)

Studies have indicated that athletes who engaged in a MAC program had better ratings from their coaches on the increased level of performance than athletes who took part in a traditional psychological skills intervention (Briegel-Jones et al. 2013, 350). The MAC program has proven to increase performance, decrease stress, and improve the overall enjoyment of athletes (Worthen & Luiselli 2016, 177-178).

4.2. Applying mindfulness

Another example of a mindfulness training program was implemented for female high school volleyball and soccer players in a study conducted by Worthen and Luiselli (2016, 177- 178) that borrowed from both the MAC and MMTS approaches. In this study, sessions of mindfulness practices were implemented, concentrating on awareness and the acceptance of both internal and external emotions. The athletes were

informed that the mind would wander and that it was normal to lose concentration. The participants were instructed to notice when they lost focus and without judging themselves harshly, to simply guide their attention back to the present moment. The athletes were taught techniques to train the mind to pay attention and concentrate. The importance of paying attention in sport was highlighted. The mindfulness practitioners guided the athletes through sitting concentration practices and had the students discuss their thoughts about the session afterwards. (Worthen & Luiselli 2016, 177.)

The athletes participating in the study were guided through body awareness exercises. The main practice was a body scan, a form of meditation where focus is drawn to individual areas and sensations of the body. The body scan was done as a tool to help the athletes gain body awareness and encourage regulation of emotions and stress. The athletes were encouraged to simply allow body sensations and emotions to move through them rather than becoming tense and agitated, noting that tension can impede solid sports performances. Following each body scan practice the athletes were encouraged to express their feelings regarding the practice. The athletes indicated that they had an increased awareness of their bodies and a realization of the fact that their mind wanders often. (Worthen & Luiselli 2016, 177-178.)

The athletes were also guided through a practice of thought awareness, where they would allow their thoughts to come and pass, just as they did with their emotions and sensations in the body scan. They were instructed to accept the thoughts that they had as they were, non-judgmentally and without tension. After the practice the athletes indicated the thoughts they were having were often negative and self-deprecating. The instructor highlighted the fact that many thoughts are in fact out of one's control and it is therefore important to view thoughts as the workings of the mind and not intentional thinking or truths. (Worthen & Luiselli 2016, 178-179.) According to mindfulness theory, change follows acceptance, but the change differs from that seen in traditional cognitive behavioural therapies. Instead of altering thought content, individuals are changing their relationships with their thoughts through mindfulness practice. (Greco & Hayes 2014, 16.)

In Worthen and Luiselli's training program, mindfulness with movement was practiced by simply hitting a volleyball back and forth, noticing when the mind would wander from the task at hand and to bring the attention back each time it happened. The athletes were also encouraged to learn to listen, in the hopes of improving team work and communication. The athletes in the study had higher scores of emotional awareness and were able to stay focused for longer periods of time. The athletes particularly benefitted from the specific mindfulness movement practices. (Worthen & Luiselli 2016, 182-184.)

While mindfulness-based training programs have shown promising results, there is room for improvement. One way of enhancing mindfulness-based programs would be to provide athletes with more preparation regarding the ideas and tenets of meditation before commencing training. Feedback given by athletes participating in mindfulness programs indicated that they were not always certain how the practice related to their athletic training. Understanding the connection between meditation and athletic performance would help the students of mindfulness better accept the program. Also, teaching mindfulness while using athletic movements has been found to resonate with athletes. Catering mindfulness practice to better align with training programs and sport would perhaps help remove some of the “mysticism” associated with mindfulness and particularly meditation and help it to better resonate as a sound and beneficial training tool for athletes. (Worthen & Luisell 2016, 178-181.)

Mindfulness training improves focus and concentration but how is athletic performance affected? The mind often wanders in repetitive types of activities such as long distance running, for example. This effects the athlete’s ability to focus and concentrate on the task at hand. As a consequence, the athlete loses focus on proper form, breathing techniques, and tactics. Additionally, physical activity, when performed over long time periods, can cause fatigue and pain that may incite negative thinking patterns and effect performance and motivation. Consequently, athletes require mental training as well as physical training to deal with negative thoughts, exhaustion, boredom, performance apprehension and pain. (De Petrillo et al. 2009, 357.)

5. Health benefits

Mindfulness interventions have been successfully used in clinical psychology to treat anxiety related disorders (Longshore & Sachs 2015, 118). They have yielded positive outcomes with various populations that deal regularly with stress such as veterans suffering from post-traumatic stress disorders, nurses, students, and caregivers (Galla et al. 2001, 40). There is no reason to doubt that such positive outcomes cannot be extended to athletes and coaches who also face stress and anxiety on a regular basis. (Longshore & Sachs 2015, 118).

The clinical implications of mindfulness have been recognized for longer in the medical community. Hundreds of hospitals across the United States offer stress reduction programs grounded in mindfulness training. Empirical studies suggest that mindfulness based interventions may reduce harmful conditions including stress, anxiety, pain, depressive relapse and disordered eating. (Baer 2003, 126.) A meta-analysis conducted by Grossman, Niemann, Schmidt, and Walach (2004, 42) reviewing the health effects of mindfulness based interventions on adult populations found consistent improvements in facets of mental health as well as benefits in physical wellbeing, sensory pain, and physical impairments. Research has suggested that mindfulness based interventions have many positive effects on health. They have been shown to benefit individuals suffering from diseases such as fibromyalgia, cancer, and heart disease and improved wellbeing in those suffering from chronic pain, anxiety, depression and stress. (Roberts & Danoff-Burg 2010, 165.)

5.1. Pain

There is no escaping that pain is a part of sports. Whether dealing with small bumps and bruises or more serious injuries, athletes are always looking for ways to manage their pain and discomfort. The ability to encounter pain sensations with a nonjudgment approach had been shown to decrease the distress normally associated with pain. One approach to address pain management is through the mindful meditation practice where participants are asked to sit motionless and observe feelings of pain or discomfort that may arise. The intended result is the ability to face pain without the typical emotional reactivity. Even if the actual pain sensations were not decreased, the associated suffering and distress may be alleviated or reduced. (Baer 2003, 128.)

5.2. Stress

Psychological stress and its accompanying health problems are on the rise in the United States and elsewhere. The severity of stress experienced by people is also ever increasing with 20% of a sample of U.S.

adults claiming that the stress they encounter regularly was extreme in nature. The resulting health burden of such stress is staggering, with an estimated 60-90% of primary health related visits caused by stress related complaints. (Galla et al. 2015, 37; Roberts & Danoff-Burg 2010, 171.)

Stress management interventions using mindfulness training can prevent or reduce the risk of many stress related diseases and improve the outcome for many illnesses. Mindfulness training allows for participants to foster skills to deal with maladaptive and reactive responses to stress such as engaging in unhealthy eating habits or consuming alcohol. The enhanced awareness and present moment experience born from mindfulness practice allows for deliberate conscious action or response to stressful stimuli fostering adaptive self-control, stress reduction and control over emotions. (Galla et al. 2015, 37.)

Several reasons have been purposed to explain why mindfulness reduces stress and in turn improves overall health. Baer (2003, 139) claims that relaxation, described as a reduction in tension, is one of the key mechanisms underlining mindfulness practice and its positive stress reducing effects. Additionally, improved emotional regulation (being in control of negative emotions), improved non-attachment (seeing happiness as being separate from external circumstances) and decreased rumination (constantly thinking about negative, often self-focused events about the past or present are skills developed through mindfulness training that aid in coping with stress. (Baer 2003, 139-140.)

Studies support the use of mindfulness practice in promoting both physical and mental health (Baer 2003, 139; Roberts & Danoff-Burg 2010, 171). As mindfulness has been shown to directly reduce stress, these results are especially pertinent for college students and particularly for athletes who are typically exposed too many stressors (e.g. competition, performance choosing a career and separation from family (Moen, Federici, & Abrahamsen 2015, 4; Roberts & Danoff- Burg 2010, 171). Furthermore, the present moment awareness through mindfulness training allows for athletes to focus attention towards the most important facets of training, thus optimizing athletic potential and minimizing unnecessary stress (Moen et al. 2015, 4-6).

5.3. Burnout

While stress itself is neither good nor bad and stress may actually aid athletes to progress mentally and physically through training, if stress reactions continue over prolonged periods of time (e.g. become chronic), negative consequences for the athlete ensue. One such consequence is athlete burnout. Burnout can be defined as “a cognitive-emotional reaction to stress, characterized by high levels of exhaustion resulting from the chronic demands made on a person’s resources.” For athletes, burnout is said to occur at

a point when the total load of encountered stressors becomes too strenuous. It consists of three main facets: (1) emotional and physical exhaustion (2) diminished sense of accomplishment (3) sport devaluation (characterized by lack of interest in the sport and decreased interest in quality of performance). The number of stressors elite athletes experience on a daily basis is immense. Athlete overtraining and burnout research has increasingly focused on both non-training stressors and psychosocial factors rather than mere physiological stress. (Moen et al. 2015, 5-7.)

Competition can be highly stimulating and fun. However, when beating the opponent takes priority over doing well for the sake of growth and improvement, enjoyment dwindles. Competition provides enjoyment only when it is viewed as a means to develop one's skills. Once the result of the competition becomes the sole concern, the activity itself is no longer fun. This information is critical to enhancing the level of enjoyment in sport for all participants, and likely for also increasing the skill level over the long run. Long term athletics can become commonplace for many athletes who would have otherwise dropped out of their sport much earlier because the competition was the only thing that mattered. Athletes must be encouraged to enjoy every day without diminishing the enjoyment of others. (Csikszentmihalyi 1990, 50-51.)

Mindfulness interventions have shown promising results regarding athlete burnout. Athletes who engaged in mindfulness practice were more likely to recover from exhaustion, fatigue and fever reactions associated with burnout. It also improved feelings of energy and sports function. How can these improvements be accomplished through mindfulness? Mindfulness may assist athletes with accepting the stressors they face thus preventing rumination or worry about the consequence of stress. Also, it can provide the athlete with a sense of control over the stress, thereby facilitating a better reaction to the stressful experience. Mindfulness practice can allow athletes to improve focus and reduce reactivity due to the fact that stressful events are not ignored during training but are rather acutely recognized while attention remains engaged on the task at hand. (Moen et al. 2015, 4-5, 14-15.)

To summarize, mindfulness training is negatively associated with both stress and athlete burnout and positively correlated with performance. It is therefore a potential tool to be used by athletes recovering from burnout and for preventing excessive stress and burnout from occurring. (Moen et al. 2015, 14-15.)

6 Aims of the project

The aim of this project was to produce a practical guide that incorporates mindfulness practices into sports training that can be used by coaches and athletes. The guide is intended for all sports and athletes and can be used by anyone regardless of past knowledge in the field of mindfulness. The purpose was to define the tenets of mindfulness and highlight its beneficial qualities in sports while helping coaches and athletes train more effectively. The findings suggest that by increasing focus, concentration and attention, as well as helping athletes reduce stress and anxiety, diminish athletic burnout and improve cognitive function, mindfulness training contributes positively to performance in sport. The guide is meant to serve as a manual that coaches and athletes may use to cultivate an environment which supports higher levels of performance and overall wellbeing.

The objective behind the guide was also to bring mindfulness into mainstream sports. Currently, psychological training often takes a back seat to other skills cultivation. By incorporating mindfulness into a sport context, the hope is to dispel any myths about it being an esoteric discipline and solidify its application as a teachable and trainable skill that can assist athletes in developing concentration, focus, and awareness (Worthen & Luiselli 2016, 177-178). Athletes who practice mindfulness can increase their moments of flow or “being in the zone,” thus improving performance and overall wellbeing, as well as decrease their stress levels and reduce burnout (Scott-Hamilton & Schutte 2016, 99-100; Moen et al. 2015, 6). The guide is intended as a practical, user friendly tool to introduce mindfulness tenets into the daily training of athletes.

Presenting mindfulness in a socially inclusive manner without references to any specific religion or culture was paramount to completing the purpose of this project. Extending the benefits of mindfulness to the field of sport for both coaches and athletes was of particular importance. Regardless of individual perceptions of mindfulness, the goal of this project was to establish any benefits mindfulness practice has on athletic performance.

7. Project planning

The criteria used for researching this project was performed via a literature search using the Haaga-Helia University of Applied Sciences databases. Sportdiscus was the primary database used. The search terms included: mindfulness, sport, performance, training, health, wellbeing and athlete. Upon reading journal articles, a search of some relevant reference lists was also conducted to find additional articles. There are many books written on mindfulness and some of those publications were researched in the planning phase of this project. Articles relating to mindfulness and performance in sport were included. As mindfulness in itself is not a new idea and the concept is not continually evolving or changing, there was no exclusion criteria for acceptable articles regarding date of publication. However, as the application of mindfulness in a sport-specific context is more recent, the majority of the literature included has been published within the last 10 years.

The interest in this project was born many years ago. Highly competitive athletes endure rigorous physical training, dedicating years to developing their bodies to become fine-tuned machines. Many athletes take great steps and make enormous sacrifices to attain their goal of playing sports at an elite level, working out their bodies daily and training with passion and dedication. In addition to adhering to strict regimens and training programs developed by their coaches, they also dedicate their own time to their sport outside of scheduled practice and competition. Unfortunately, many of these athletes will forgo the psychological training so desperately required for optimal health, performance and longevity in their sport. Undermining the significance of mental training by many coaches and athletes threatens the overall success of each athlete in their sport and creates a weakness in training programs that can quickly unravel years of dedicated training.

After studying mental training disciplines for sports and finding mixed opinions about the research, it became evident that there was a need for a training tool that could teach athletes to focus their attention with increased regularity and help them to cope with stress and anxiety, while reducing the incidence of burn-out amongst all participants in sport. This project began as a desire to develop an understanding and knowledge of a focused and dedicated mental skills training program for athletes that was inspired by a lack of mental training in my personal athletic career.

The practice of mindfulness has brought great inner peace and joy into many lives (Heaversedge & Halliwell 2010, xv-xiv). With that being said, could it help athletes to perform better and give them a greater sense of wellbeing? This question was central to the aim of this project. At first glance, meditation, as a practice did not appear to be an exercise that the sports world would embrace. After searching through

many research journals and books about mindfulness in sport the data indicates that although there is an initial reluctance to mindfulness and meditation practice amongst athletes generally, after reviewing its benefits and what the practice actually involves, athletes for the most part became receptive to the idea of mindfulness meditation training (Mumford 2015, 56).

Most mindfulness training techniques are designed so that they are available to the average person anywhere. An intent of this project was to plan and implement practical mindfulness training techniques that were focused on athletes and coaches, in order to help athletes accept mindfulness training and achieve as many benefits as possible. The initial planning of mindfulness practice sessions began in December of 2014. A practice was designed for students of the Degree Programme in Sports and Leisure Management at Haaga-Helia University of Applied Sciences. The ice hockey practice was entirely revolved around mindfulness training. Every task that the athletes were instructed to do integrated mindfulness principles. All drills were developed in a manner that was ice hockey specific but also incorporating mindfulness practice. During an off-ice session the students were trained in mindfulness-based meditation and engaged in a yoga session. Many of the drills were developed incorporating facets from mindfulness literature and elements such as movement and skill were included into each ice practice drill in order to present mindfulness in a way that would both appeal and resonate with the students.

After receiving positive feedback about the session, mindfulness-based training became a personal passion. A mission to help train athletes to achieve better performance and reduce stress through mindfulness training was ignited that day. After implementing further mindfulness training sessions with other groups of students, athletes and teachers, it became apparent that a mindfulness training guide could be useful in assisting coaches to train their athletes in focus and concentration, while reducing stress, anxiety and chances of burnout. The development of the practical guide has been an ongoing process since the first training session in 2014. It will continue to evolve and grow with each training session, as more ideas emerge and research becomes available.

8. The implementation of the project

The development of the practical mindfulness-based training guide and implementation of the related research is an ongoing process. The project began with copious amounts of time dedicated to reading and research. The next step was to implement mindfulness training techniques from the research and try and apply sport specificity to them. Choosing and developing exercises that would best be suited for sport followed. Writing descriptions for each chosen exercise ensued.

Mindfulness training is only beginning to be incorporated into sports. As research continues to grow, the benefits of mindfulness training are becoming more evident. It is my hope that this project and practical guide will contribute to more individuals and sports organizations applying mindfulness interventions to help train their coaches and athletes. The specificity of this guide will hopefully extend into the sports world to allow mindfulness training to become a more commonly used practice technique. By becoming a more familiar sports training method, this project will be able to reach out to many different sports and organizations, from youth sport and amateur participants all the way to the elite athletes who desire to reach professional-level achievements.

This guide will eventually be included as a part of a training “package” that will include professional hands-on instruction to train athletes to focus, concentrate and pay attention, with the objective of better performance and enhanced overall wellbeing. After personal instructional sessions working with coaches and/or athletes, the guide will be given to coaches to provide them with a resource of simple, practical ways to train their athletes in mindfulness techniques. Hopefully, coaches will also benefit from the guide personally and help themselves increase their own performance and reduce their stress and burnout levels. The best way to implement this plan is to reach out to many teams, individual athletes and sports organization and introduce them to the tenets and benefits of mindfulness training. The guide will serve as a tool to showcase the ease in which mindfulness techniques can be used in sport.

9. The description and results of the project

The final product of this research was the formulation of a mindfulness-based training manual for coaches and athletes. The guide is intended to be used as a supplement to training and will ideally require the coaches have some previous knowledge of mindfulness training. The guide has drawn on previous research conducted on mindfulness interventions with athletes.

The guide has two parts: the first section is based on traditional mental training techniques used in previous studies, while the second part contains originally designed, sport specific exercises based on the research from the literature review. Both parts of the guide can be used by coaches and athletes to help achieve greater performance and overall wellbeing. The sport specific exercises have been crafted in order to introduce mindfulness methods into the sports arena. According to the research, athletes resonated with meditation exercises which most resembled their sport. In most cases, they enjoyed the meditations which incorporated movement. ((Worthen & Luisell 2016, 179.)

The second part of the guide is intended for athletes to build focus and concentration through movement. During the research phase of this project, no sport specific meditation or focus type drills were found. The intent of this project was to create exercises that would be specific to athletes, while incorporating traditional mindfulness techniques into training.

10. Discussion

There is a definite need for more research on the effects of mindfulness on physical skills and hence, on the consequences of mindfulness training on athletic performance. Further research is also required to identify for whom mindfulness is most appropriate, how it is best applied to sport and when the aims of it should be administered. (Kee, Chartzisarantis, Kong, Chow, & Chen, 2012, 562; Aherne et al. 2011, 187.) There is also a great need to conduct studies that employ longer mindfulness interventions. To date, studies generally ranged from 4 week programs up to 24 weeks. A true reflection of the benefits of mindfulness training on performance and overall wellbeing require longer periods. Mindfulness is a method based upon the practice of non-perfectionism. Research indicates that with longer periods of mindfulness training, athletes would experience reductions in perfectionistic tendencies. (Kaufman et al. 2009, 349.) There are many concepts of mindfulness that are highly desirable such as awareness, compassion, knowledge and insight but these traits are currently challenging to evaluate empirically (Baer, 2003, 140).

The results of the literature review meet the intended aims of the project. A positive correlation between mindfulness interventions and increases in athletic performance and overall wellbeing was found (Worthen & Luisell 2016, 188; Kaufman et al. 2009, 349). A link between the current available literature on mindfulness interventions in a sport context and athletic performance was established and a practical guide to apply the research into the training of athletes was developed.

There is a definite need for athletes to receive proper background knowledge regarding what mindfulness training entails and what it can offer, before the commencement of any training program. The participants of future studies should have some mindfulness based skills and understanding in order strengthen findings. It is difficult for athletes or any participants of a training program to invest in an intervention whole heartedly if they are unclear regarding the intended benefits of the training. While the benefits of mindfulness are now measurable, there is still perhaps a stigma of mysticism associated with the discipline that could deter some athletes from taking mindfulness training seriously. An intent of the practical guide was to offer some background regarding mindfulness and its benefits and apply the practice into sports specific training that would appeal more to athletes and hopefully strengthen its perception as a valid training tool.

Providing children with proper training in sports psychology offers support in their psychosocial development. Unfortunately, there is still a great shortage of research studies, theoretical models, and case studies that clearly show the benefits of psychological training for youth athletes. (Evans & Slater 2014, 58.)

While mindfulness is beneficial to elite athletes, it is important to remember that the majority of those participating in sport will not reach elite status. Mindfulness training can enhance enjoyment in sport for athletes of all levels, with the ultimate hope being to not merely enhance performance but to prolong participation and enjoyment in sport for all athletes.

Long distance runners who participated in a mindfulness training program exhibited a decrease in running related worries, suggesting to researchers that they enjoyed enhanced acceptance and comfort. In having the ability to be aware of and accept stress and negative thought patterns, without judgment, the runners in the study were able to suffer less sports related anxieties and increased their ability to concentrate. Increased mindfulness may encourage athletes to heighten their ability to accept anxious moments associated with their sport and not let distractions interfere with their performance. When runners were engaged in “a good run” they described it as being free of distractions, worries or judgments of themselves and they described feeling completely in the moment. (De Petrillo et al. 2015, 359.) This is a fine example of how mindfulness interventions can have a positive effect on athlete’s performance and overall wellbeing. This shows that this research was able to meet its intended aims and objectives.

As a practice, mindfulness has been around for thousands of years. It is a practice that has proven to enhance the lives of its participants through awareness, concentration, nonjudgement and acceptance. Ultimately, we all live our lives in moments, not in time, and mindfulness training can help people cultivate a greater awareness for the individual moments that comprise their lives. In sport, this can be put into practice to help athletes accept their current situations, thus giving them a realistic starting place from which to learn, progress and develop. Through mindfulness, athletes can learn to pay attention and concentrate with greater regularity, thus enhancing their performance. Mindfulness training also reduces levels of stress and anxiety which in turn will increase athletes’ overall wellbeing. Mindfulness is not a concept, rather it must be practiced in order to reap its benefits. The benefits have the potential to be extraordinary and can have lifelong effects for the individuals willing to invest the effort and dedication required for practice.

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Appendix



A Practical Guide for Helping Athletes Develop Awareness, Concentration and Acceptance through Mindfulness

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Introduction

To become better at any aspect of sport, athletes must be willing to dedicate their complete focus and attention to a given task. Focus, concentration, attention and acceptance are all trainable and learnable skills that can help athletes perform at higher levels and contribute to an overall heightened wellbeing. Athletes can learn these skills through the use of traditional meditation practises (meditation is originally intended as any kind of exercise that is physical or mental) and sport specific mental training drills.

Mindfulness training techniques have proven to assist athletes in their skill development. Mindfulness is simply learning to become more aware of your current environment. The main premise for training athletes in mindfulness is to help them foster new degrees of concentration and focus. It provides a real and concrete way to train athletes to pay attention. Individuals who are fully absorbed in a task have a greater opportunity to achieve moments of “flow” or “being in the zone,” where concentration and focus are at their highest.

Learning the psychological aspects of mindfulness will train athletes to accept the way things are at present. Mindfulness training encourages athletes to begin by accepting their current skill levels in order to have a realistic starting place from which to develop new skills.

Mindfulness training requires dedication and energy. It is a long-term practice that much like physical training, may be uncomfortable along the way. The benefits will take time to present themselves, but with the combined perseverance of coaches and athletes, an enhanced learning environment can be created using the techniques and drills presented in this guide.



Benefits of Mindfulness

Mental Skills

Better concentration
Better decision-making
Faster reaction times
Higher mental stamina

Health and Wellbeing

Reduced stress
Reduced burnout
Resilience to fatigue
Reduced levels of pain
Stronger immune system
Better sleep
Better eating habits



Life Skills

Better communication
Improved emotional control
Increased emotional intelligence
Better listening skills
Better self-reliance
Increased resilience in adversity

Life Satisfaction

Higher self-esteem
More self-confidence
Better focus on goals
Increased enjoyment of activities
Attainment of full potential

Part One

Traditional Mental Training Techniques

Body Scan- In the body scan we lie down and move our awareness around the body in sections. We are cultivating awareness of the body and learning to maintain focus and attention.



Practice-Try having athletes lie down on a comfortable surface. Begin by having them focus on the breath, simply feeling the in-breath and the out-breath in a calm and relaxed manner. Explain that the purpose of the exercise is to maintain focus of the specific body parts and to feel any sensations which may or may not be in that part of the body. Instruct the participants to recognize when the mind has wandered off of the suggested focus of attention (which it will do many times) and to simply bring the attention back to the current area of attention. This is the exercise- bringing the attention back every time it wanders.

Once the participants are relaxed and ready they can be instructed to begin by focusing on the left toes, left body, lower body or whatever area you wish to start in. You can do 10 minute body scans or up to 45 minutes. It is up to you. You can get as specific as necessary. In a very detailed body scan you could move from the left toes to the left top of foot to the heel and ankle, up to the left shin and calf, continuing with each body part along the way up to the hips and back down to the right side of the body again coming up to the hips and then focusing on both hands and arms, shoulders neck and face, feeling the heart beat and the lungs expand, taking as much time as you like along the way with lots of focus on breathing, regaining

attention and being non-judgmental of yourself. When the athletes are sensing discomfort or tension in a particular area maybe they can accept the pain or discomfort and take a breath into the area, possibly allowing some tension to soften.

This is a very simple exercise but challenging. It is a great beginning meditation that with time and commitment can help athletes to develop focus and concentration and gain an acceptance of discomfort.



Breathing Exercises- Stopping to take a breath can be one of the simplest techniques to teach athletes to gain focus and perspective. A single breath can be a meditation if it is done with intention and focus. Having athletes come together in a controlled breathing exercise can build team cohesion and help alleviate stress and anxiety. There are many breathing exercises but the best beginner exercise for athletes is to spend about three minutes teaching them that they can always use their breath as an anchor when they are feeling frustrated, angry, tired or overwhelmed. When you shift your focus of attention to the breath you

move from thinking to awareness. That awareness allows individuals to accept the true reality of the situation and help them to become present and conscious.

Practice- At any time during a practice or stoppage of play in a game, have the athletes stop what they are doing and bring their full attention to the fact that they are breathing. Take as long as you like to simply remind them to focus on the breath and to bring their attention back to the breath every time the mind wanders. Focus on the breath coming in and the breath moving out of the body, noticing any thoughts of boredom, restlessness, fatigue and just allowing the feelings to come and go like the breath. Allow these exercise to play out in a non-judgmental manner. Athletes can gain acceptance and learn to concentrate with greater regularity with a simple breathing exercise.



Sitting Meditations- For many people, the word “meditation” conjures up images of someone sitting cross legged with their eyes closed, possibly chanting and looking rather mystical. Sitting meditation is not just for yogis or spiritual gurus but rather a way for regular people to practice paying attention and focus. It is a time to slow the incessant thinking mind and awaken the awareness of reality. This can be extremely challenging for many first-timers. Simply sitting and focusing on the breath, sensations in the body, noises or thoughts in the mind can be uncomfortable. Sitting on the ground for any extended period of time can present problems for many. With time and practice, this simple exercise can have many rewards both physically and mentally. It takes time for concentration and mindfulness to develop, so it is best to begin practicing slowly and simply.

Practice- Bring a group or individual to a comfortable place where they can try to sit for a duration of time you determine to be suitable. Have participants sit in a posture that represents wakefulness. Five minute sitting meditations can be a great place to start. Have the participants begin by focusing on the breath and to bring attention back to the breath every time the mind wanders. Move the attention to any sounds the participants hear, focusing on the ears and what they can listen to. They can then bring their attention to the sensations of the body. Where the body makes contact with the ground or chair and simply have them accept the feelings. The sitting meditation can also include focusing on thoughts that go through the mind, allowing the thoughts to pass by like clouds would in the sky. Instruct participants to accept what is happening and not try to change the situation or feelings but just be present for what is really going on in the mind and body. Give simple guidance through the exercise with lots of quiet time for personal growth. The exercise will help athletes to train the mind to be more focused and aware. Learning to focus while sitting quietly will help athletes to focus in the moments of stress and anxiety in the sports arena.



Walking Meditation- This form of practice often resonates with athletes, who tend to enjoy more physical meditations. This exercise is intended to highlight how often we are unaware of what we are doing. We take walking for granted and when we actually concentrate on the act of walking, we can see the complexities it entails. The act of simply standing can offer new levels of awareness, as we recognize the effort that goes into balancing. In the walking meditation you attend to the walking itself. You can focus on the foot-fall as a whole; or isolate segments of the motion such as knee movement, leg movement, arm movement, or the entirety of the whole body moving. You can bring the awareness of breathing together to the meditation with the awareness of walking.



Practice- Duration: 5-45 minutes. Try bringing individuals together in a line and have them simply walk to one side of a gymnasium or field. The point is not to get anywhere, only to notice the sensations in the body. Connect the movement with the breathing, instructing the individuals to sense the bottoms of the feet and the ankles and knees, taking into account the feelings in the entirety of the body. Become aware of the sense of balance or lack of balance.

The walking meditation can be done at any speed as long as it is done with complete attention on the act of walking. Once the individuals have reached the end of gymnasium or field have them stop and stand for a few moments, focusing on standing and breathing. After a few moments turn around in a controlled mindful manner and continue to walk to the other end repeating as many times as the time you have allotted allows. Participants can gain attention and concentration while moving in this exercise, also learning to bring the breath and body together.



Part Two Sport Specific Drills

Movement specific exercises

This exercise can be done while running, skating, walking or cycling. The objective is for the athletes to focus on the function of movement, attempting to bring complete attention to a task which may seem easy or obvious. The act of running may be taken for granted and when an athlete gives the simple act their complete attention the athlete will notice nuances to the movement they may have overlooked in the past. Reaching higher levels of performance begins with focusing on our most basic functions. When athletes can develop a sense of awareness to the basics first, it gives them a starting place to develop more complex skills.

Drill- 5-10 minutes to begin. Take the basic movement of the specific athlete and have them spend 5 plus minutes completely focused on that one act. If running, they can run at any speed, being aware of all of the sensations of the body. The point is to be fully accepting of where their abilities to run are today, without projecting wishes and desires into the run. Remind the athlete to bring their attention back to running every time the mind wanders.

This drill will help to increase focus, help the athlete to pay attention to what they are presently engaged in and build awareness of the body. The athletes will also cultivate a greater sense of joy in their sport as they learn to not take for granted the simple pleasures of running, skating, cycling, etc. This exercise, if done repeatedly and with care and effort will reduce athlete burnout.



Recovery Training with Focus on the Breath

When athletes exert full effort, they are often out of breath and fatigued. This can lead to stress and anxiety in the mind and body of the athlete. The purpose of this drill is to help them recover more quickly, to increase performance and to assist the athlete in gaining confidence of their own abilities to regulate their stress responses. This drill can be used in conjunction with any drill that induces high levels of fatigue.

Practice- When athletes are gasping for breath, instruct them to place all their focus on the act of breathing. Every time the mind wanders off the breath, simply bring attention back to the breathing and the feeling of the stomach expanding on the in-breath and the stomach contracting on the out-breath. Having the athletes engage in conscious breathing is the purpose of the exercise.

When participants experience trouble catching their breath, it can create stress for the body and mind. With conscious breathing, athletes can begin to recognize the control they can have on their own stress responses. In time they will be able to bring their heart rate down faster, thus improving performance and overall wellbeing.

Shooting, Passing, Throwing Drill

This drill may be used for athletes at any skill level. It can be done for 30 seconds upward. Gauge the athlete's focus level to determine the length of drill. You can have the athletes focus on many different senses in this exercise.

1. Focus on listening drill- Have all participants be completely quiet and listen to the sounds of their game. This includes the sounds the stick makes passing and receiving a ball or puck, the sound of the ball hitting a bat, the sounds of a ball bouncing on the floor or a ball hitting a glove. Can they identify how it sounds when a ball is hit in the “sweet spot?” What does a perfectly received pass makes on the hand or stick? This drill will create more focus and help athletes pay attention to small details, thus improving performance.
2. Focus on the sensations of the body drill- Encourage the athletes to sense the feelings in the hands when they pass an object or receive a pass. Ask the participants how the legs/hands/arms/back feel when you make a great shot/pass/hit/stroke? This drill encourages body awareness in the athletes. When they can sense the feelings of a well-executed task, they are more likely to repeat that movement.



Mistakes Focusing Drill

The object of this drill is to allow athletes to get over mistakes immediately. During a match or game it is often counter-productive to ruminate over a mistake. Athletes need to put the mistake in the past (for the time being) and focus on the present moment or play. There is a time for corrections to be considered, either during practice or possibly between plays but not during the current play. If an athlete is too consumed with committing an error, it can create more mistakes in the next play. Rather, we encourage the athletes to be fully in each moment without any self-deprecating thoughts of the past, even if the past was only 5 seconds ago.

Practice- This drill will be presented with the premise that the athletes are in a game situation. They can be performing any skill that is required for their sport. An example could be two players practicing bounce passes in basketball together. The instructions would be to pass the ball like normal and have the coach make no corrections or give no instructions. Encourage mistakes to increase development and have the athletes free themselves from self-punishment when they throw the ball away or make a bad pass. Instruct the athlete to recognize that that play is over and there is nothing we can do about it in this moment so move past it and focus on the next play. Ask the athlete to see that they have made a mistake, understand there is a time to correct the mistake in order to improve skills but it is not immediately, in the middle of a play or game. Every time a mistake is made, the athletes are instructed to move past the mistake for the moment and bring complete focus on the next/current play. Have the athletes repeat this over and over: make a mistake then put the mistake behind and focus on the present moment where, we have control. The athletes are not blocking out the mistake or forgetting about it, they are simply focusing on the present situation because ruminating about a mistake will not erase it. Mistakes are a part of sport. This drill can teach athletes to move past mistakes in a non-judgmental manner and when the time is appropriate, coaches and athletes can apply the proper techniques to correct the errors from happening in future games.

Heightened Focus Drill

The ability to pay attention is a teachable and trainable skill. In order for athletes to pay attention with greater regularity, we must encourage them to step outside their comfort zone. When athletes experience new stimuli they are forced to focus, thus increasing their ability to concentrate. This drill is designed to

alter playing conditions in order for athletes to bring focus onto specific sensations or senses. The intended effect of the drill is for athletes to heighten their awareness through different sensory disturbances.

1. Turn off the lights- If it is safe and is applicable to your sport, you can turn the lights out during a practice to remove or weaken the visual sense. The result is a heightened awareness of touch, hearing and communication with teammates. The sensations of respective sports equipment will be enhanced, the sounds of the game will take on a new dimension and athletes will be forced to find new ways to communicate with their teammates. While this drill can be frustrating and challenging for many athletes, it can help them accept the current situation for what it is and develop new perspectives of their game. Encourage participants to have an open mind in regards to the darkness and observe what types of new experience this gives them. This could entail repetitive passing or shooting drills or simply walking on the court or field while focusing on the present moment. This drill could be run with a few selected players who are blindfolded as well. The intent is to enhance and observe various sensations that may ordinarily go unnoticed.
2. Silence Drill- In this drill, have the athletes cease all verbal communication. In a team sport setting this drill is efficient at introducing the experience of new stimuli. Athletes can begin to listen for more nuanced sounds during the game, thus heightening understanding and senses required during the game, which increases their knowledge and can enhance performance. If players are listening to the simple sounds of the game they can pick up when a pass or shot is performed correctly by listening, hence gaining a new perspective of the game. When players are engaged in small area games without the ability to communicate with their teammates, new and interesting ways of communicating occur. A greater level of focus also develops as the quiet allows for present moment awareness.
Have the players participate in small area games without any verbal communication. Do not use a whistle or give verbal commands. Play in a completely quiet environment and ask questions about the thoughts and feelings of the athletes after the drill. Another option is to have the athletes play a simple passing or throwing game without any sounds other than the noises of the ball, stick or glove. Awareness to the game will be heightened during these drills, developing more focus and attention to details.
3. Loud Music- Play music during a practice or drill that is extremely loud and distracting- preferably music that the participants likely do not enjoy. This drill will encourage athletes to accept the moment, learn to concentrate when situations are difficult or when distractions are present and find new ways of communicating with their teammates. If possible you can encourage the athletes from

making judgments during this drill. Certain sounds are generally viewed as pleasant by most, while others are distracting or offensive. If the athletes can simply learn to accept the sounds as sounds and not judge them, they can then focus on the task at hand and not be bothered by loud sounds or distractions that may arise in the form of boos or heckles during a match or game. Instruct the athletes to accept what is happening and to guide their attention back to the present moment every time their mind wanders to judgments of the sounds or the experience and simply guide the awareness back to the present task.



Injury Acceptance Exercise- The purpose of this activity is to prepare athletes for the unfortunate reality that injuries occur in sport. Often when an athlete is hurt or injured they feel pain not only in the injured area, but they frequently also experience great mental or emotional distress. Athletes should be encouraged to accept the pain rather than block it, which seldom amounts to more than feelings of anger and frustration. Rather than accepting the injury as a reality of sport, the mind will tend to wander off to consider all of the possible negative outcomes of the injury. Examples of such negative scenarios athletes experience are convictions that they have ruined their career or dashed away any opportunity of attaining their sports goals. They often feel as though they have let down their teammates and families. Such negative thought patterns are common when we are faced with adversity. We can equip athletes with tools to help avoid these mental storms. It is critical for coaches to set aside some time from training to discuss the reality of sport and injury with athletes and to provide them with practical strategies to cope with an injury. If the athletes are mentally trained and prepared prior to suffering an injury, they will have coping skills to move past the injury. A training session for this type of discussion would include strategies that feature conscious breathing when an injury occurs to calm the athlete and help better evaluate the true sit-

uation. Developing predetermined recovery training plans for the most common types of injuries for each specific sport would be wise. Such a plan would provide concrete strategies to help the athlete accept their injury and provide them with a new training schedule to ensure recovery and progress. Athletes can be taught to focus training on areas of the body that are not injured (if possible) or to spend time on game analysis to improve the technical and tactical acuity of their sport while they are recovering. If such strategies are mapped out before an injury occurs, athletes will accept their injury more readily, thus temporarily redirecting their focus and resulting in faster recovery times.



Mindfulness Journal- Willing participants may find it beneficial to write down their experiences regarding mental training in a journal. Recording the feelings and emotions that arise during mental training can help athletes recognize the benefits they experience and also realize what aspects of the training simply do not resonate with them. Keeping detailed notes can additionally encourage athletes to continue with their mental training. Mindfulness training is not a practice where one can reap the rewards after only participating a handful of times. Rather, it is a life-long practice which must be cultivated slowly and consistently. If athletes have a record of their emotions and feelings, they will be able to look back at their growth and development. This will provide them with the documentation that their mindfulness training has recordable results.

Through dedication and effort, athletes can become more aware of their sport, bodies and lives. They can cultivate a greater ability to focus on tasks and pay attention with more regularity. Their performance on and off the sports arena will increase and their heightened life satisfaction will create less stress and anxiety

on a day to day basis. Athletes will be more likely to stay engaged in their sport, reducing the levels of burnout that are common in sport today. A solid mindfulness training intervention can have many beneficial results for all stakeholders involved in sport. It merely requires commitment and passion from both players and coaches to reach new and exciting levels of performance and wellbeing.