

MINDFULNESS AND SPORT: THE ROLE OF MINDFULNESS IN THE LIVES OF  
ATHLETES PRIOR TO AND DURING COVID-19

By

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## **ABSTRACT**

The COVID-19 pandemic disrupted sports globally. Given such disruption, the athletes were vulnerable to stress and anxiety. Some athletes reported using mindfulness to manage their mental health and well-being. This qualitative study examined the role of mindfulness in the lives of athletes prior to and during COVID-19. Semi-structured interviews were conducted using Facebook Messenger, and data was analyzed using thematic analysis. Eligibility criteria for participants included ages 19 or older, access to Facebook Messenger, competition experience, and experience with practicing mindfulness. A total of twenty athletes participated in the study and ten different sports were represented: Three primary themes were identified: (a) Groundedness: Pre-COVID-19, (b) Uncertainty: Early COVID-19, and (c) Impermanence: During COVID-19. Findings suggested that mindfulness played different roles before and during the pandemic. These findings provide insight into understanding the experience of athletes during the COVID-19 pandemic.

Key words: COVID-19; mindfulness; sport; athletes' experiences; well-being

## **DEDICATION**

To all the athletes who have struggled throughout their athletic career-You are not alone.

To my dad who always inspires me to follow my dreams no matter how difficult the challenge may seem.

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## List of Abbreviations

App	Application
BD	Initials of researcher, Brittany Dillman
COVID-19	Coronavirus disease 2019
FB	Facebook
FM	Facebook Messenger
GTG	Initials of researcher's supervisor, Gabriela Tymowski-Gionet
MAC	Mindfulness-Acceptance and Commitment Performance Enhancement
MBIs	Mindfulness-Based Interventions
MBSR	Mindfulness-Based Stress Reduction
MF	Mindfulness
MMTS	Mindfulness Meditation Training for Sport
mPEAK	Mindful Performance Enhancement Awareness and Knowledge
MSPE	Mindfulness Sports Enhancement Programme
NBA	National Basketball Association
REB	Research ethics board
WHO	World Health Organization

## **Chapter One: Introduction**

### **1.1 Background**

The novel coronavirus disease 2019 (COVID-19) pandemic sparked a global crisis that challenged the world in ways never before experienced; sport came to a virtual halt.

Around the globe, training centers, gyms, clubs, and even outdoor spaces were affected by widespread closures and societal disruption (Onyeaka, Anumudu, Al-Sharify, Egele-Godwill, & Mbaegbu, 2021; Petersen et al., 2021). In March 2020, most public facilities closed suddenly, and access was prohibited. Some facilities attempted to reopen but were shut down after the virus resurgence. Others tried to stay open with operational plans, including limiting physical distancing, the number of participants, and masking and distancing restrictions. These circumstances affected athletes' abilities to train and compete in their sports.

United World Wrestling (UWW), the international governing body for amateur wrestling, cancelled most tournaments in 2020 for the health and safety of their athletes (United World Wrestling Press, 2020). Canadian wrestlers were prohibited from training, with limitations varying by province or territory (Wrestling Canada, 2020). At the beginning of the pandemic, all athletes were told to stay home and maintain physical distance (Wrestling Canada, 2020). During this unique time when athletes were to maintain physical distance, they focused on other training elements to prepare for competition. For example, wrestlers focused on physical fitness, video analysis, and technique training with a human-size dummy (Harrison, 2020). Individual sports requiring specific equipment or facilities—such as swimming and shot put—left most

athletes unable to train. Canadian swimmer Kylie Masse, a two-time world champion swimmer, had no access to a swimming pool for the first few months of the pandemic. She was relegated to using alternative methods to train, including dryland training and home workouts to stay fit. Canadian Olympic shot putter Brittany Crew decided to move to a family farmhouse in Breslau, Ontario, to have the space to practice and continue working on her dream of attending her second Olympics (Harrison, 2020).

Team sports were also affected by the pandemic. Many athletes could not train with their teams due to prohibitions on gatherings, travelling, facilities closure, and other challenges. Jay Blankenau, a Canadian men's volleyball team member, provided insight into how the team was training through the pandemic. His team developed a muscle mass and strength programme using elastic resistance bands and bodyweight exercises. The team set up an App where they each log their weights, workload, and workout time, which helped the team stay connected. Blankenau said the most challenging part of the transition of training at home was staying mentally strong (Harrison, 2020).

For high performance athletes, what made the situation particularly difficult was that the 2020 Tokyo Olympic Games were scheduled to take place in the summer of 2020, mere months after the onset of the pandemic. Not only were these Olympic Games then postponed to late July 2021 an entire year later but other major competitions such as the World Championships, Pan American Championships, national championships, and various qualifying competitions in most (if not all) sports were cancelled or postponed. With such considerable uncertainty, athletes not only experienced the stress of COVID-19, but they were also trying to manage the stress and anxieties of not knowing when, or how they would train or even whether they could keep participating in their sport. Because of the tremendous uncertainty, many sports organizations shared

coping strategies such as mindfulness training to help athletes manage the heightened stress they were experiencing. For example, “Game Plan,” an online wellness resource centre for Canada’s national team athletes, provided information through their COVID-19 rapidly developed resource hub (an online resource), which included a workbook for athletes to help manage uncertainty during the pandemic by using mindfulness techniques (Game Plan, 2020).

Over the last several decades, mindfulness has been promoted as a means to promote well-being and prevent and manage mental health issues (Bowles, Davies, & Van Dam, 2022; Galante et al., 2023; Gu, Strauss, Bond, & Cavanagh, 2015). Mindfulness is “the awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally” (Kabat-Zinn, 2013, p. xxxv). During the COVID-19 pandemic, an increase in mental health challenges was reported around the globe (Ganesan et al., 2021; Robinson, Sutin, Daly, & Jones, 2022; Rossi et al., 2020) with mindfulness techniques were proffered as an approach for mitigating mental health crises (Antonova, Schlosser, Pandey, & Kumari, 2021; Schachter, Ajayi, & Nguyen, 2022; Xu, Zhu, Chen, & Tang, 2023). Research into the benefits of mindfulness has suggested that mindfulness practices are largely beneficial (Gu et al., 2015; Heppner & Shirk, 2018; Shapiro & Carlson, 2017). Mindfulness has been supported to reduce stress and promote health, both physical and mental health, as well as cognitive performance (Zollars, Poirier, & Pailden, 2019; Gu et al., 2015).

One may begin to alleviate suffering if one learns to focus and remain in the present moment (Ivtzan & Hart, 2016). Anxiety, stress, and pain are all types of suffering experienced by many, including athletes. Not only is practicing mindfulness helpful in managing anxiety, stress, and pain, but it may also improve attention (Mirams,

Poliakoff, Brown, & Llyod, 2013; Tang et al., 2007; Xu, Purdon, Seli, & Smilek, 2017), sleep quality (Simione, Raffone, & Mirolli, 2020), performance (Haase, Kentta, Hickman, Baltzell, & Paulus, 2016), and well-being (Gross et al., 2018; Gardner & Moore, 2007). With the positive outcomes of mindfulness being reported with evidence from neuropsychological, psychological, and applied clinical reports (Heppner & Shirk, 2018), mindfulness would appear to have a beneficial impact on overall well-being. Thus, it may have been a valuable tool for many people to use at any time, and it was accessible to athletes during COVID-19 (Jones, Kaur, Miller, & Spencer, 2020; Schinke et al., 2020).

Not only has mindfulness been reported to promote overall well-being and reduce suffering, but research has revealed that it may also enhance performance. Mindfulness is a performance-relevant trait in sports, and mindfulness-based interventions have been reputed to be helpful for athletes (Carraça, Serpa, Palmi, & Rosado, 2017; Sappington & Longshore, 2015). For example, athletes who participate in mindfulness-based interventions reported increased levels of mindfulness, concentration, acceptance, sense of control, and awareness of bodily sensations and decreased stress and anxiety levels (Bertollo, Saltarelli, & Robazza, 2009; Demarzo et al., 2015; Gross et al., 2018; Haase et al., 2015; Sappington & Longshore, 2015). Thus, mindfulness may improve overall athletic performance.

It is important to note that mindfulness is not being suggested as the panacea for all the world's ills despite the preponderance of its benefits reported in the literature and from practitioners. Britton, Lindahl, Cooper, Canby, & Palitsky (2021) cautioned that mindfulness can have adverse effects and may not be suitable for everyone. Published literature has shown to have limited knowledge of who MBIs benefit and how does

MBIs affect different individuals (Farias, Wikholm, & Delmonte, 2016). Additionally, the application of mindfulness to sport is relatively recent, and thus, a paucity of research in the area exists. There is also some evidence that mindfulness may lead to negative outcomes for clinical populations and those already suffering from mental illness (Farias et al., 2016). This study aims to contribute to that paucity of research, particularly on the role of mindfulness in the lives of athletes during the COVID-19 pandemic.

High profile elite-level athletes, including Kobe Bryant, Clara Hughes, Clare Egan, Bianca Andreescu, and Novak Djokovic, have described the role of mindfulness and meditation in their lives as athletes. The late Kobe Bryant, one of the world's greatest basketball players, said that his daily meditation practices were the secret to his success (Petrone, 2017; Mumford, 2016). He has a career record of winning five NBA championships, two Olympic gold medals, 18 all-star appearances and 33,000 career points. Clara Hughes, one of Canada's most decorated athletes who competed at both the summer and winter Olympic Games, credits to her success to being mindful and present (Sage, 2016). Clare Egan, the 2018 USA Biathlon Olympian, uses mindfulness as an essential tool for her mental preparation for competition (Parker-Pope, 2018).

Mindfulness allows her to breathe slowly, be aware of her surroundings, and accept distractions as they arise (Parker-Pope, 2018). Bianca Andreescu, the highest-ranked Canadian in the history of the Women's Tennis Association (The Canadian Press, 2019b; WTA Tour Inc, 2023) and the first Canadian to win a Grand Slam singles title, credits her athletic success to her meditation practices (The Canadian Press, 2019a). Practicing meditation has given her the capacity to be present and to be able to control her thoughts, behaviour, and emotions (Couto, 2019). Novak Djokovic, a Serbian

professional tennis player considered one of the greatest tennis players ever, credits his mindfulness practice for his success on the tennis court (Gupta, 2023).

## **1.2 Significance**

Because of the pandemic and associated travel restrictions, many athletes could not train and compete in their sport. In particular, elite athletes are the most affected due to the necessity of travelling internationally for training and competition, particularly during an Olympic year, and almost all experienced disruption. June 29<sup>th</sup>, 2021 was the IOC cutoff date for qualification for all athletes; there was not much time for competition or qualification. Some athletes were yet to qualify and needed to compete internationally to qualify for the Olympics; however, major qualification tournaments were cancelled. For example, the Pan-American Canoe Sprint Olympic qualifiers in Brazil and the artistic gymnastics All-Around World Cup were cancelled (Reuters, 2021). Not being able to compete impacted the financial security of some athletes, as they could no longer fulfil sponsorship obligations. For example, in a survey of nearly 500 elite athletes, a common theme among athletes was that they were in financial hardship due to not being able to perform at major championships (Associated Press, 2020). Others who have been training for the Olympics constructed their lives around the Olympic Games four-year cycle (Olympiad), and the postponement of the 2020 Games created havoc for most athletes. For example, many athletes engage in family planning around the Olympiad until after the Olympics. Not only were athletes trying to develop new ways to train for their sport, but they had to do it in such a way that protected themselves and others from contracting and spreading COVID-19. The athletes were faced with trying to continue their normal training schedule, staying healthy, and achieving their athletic goals. Most

importantly, athletes had to find ways to manage the uncertainty of their day-to-day lives. Athletes are used to living on a strict schedule that dictates what their days, weeks, months, and even years involve. During the pandemic, these athletes lost their structure and were left with tremendous uncertainty. In addition, athletes also experienced the same vulnerability as the general population, including worrying about the health and safety of loved ones, job security, and the uncertainty of their future (Szczyńska, Samełko, & Guszowska, 2021).

With stress accumulating from the uncertainty in athletes' lives, this research focuses on the role of mindfulness prior to the pandemic and the role of mindfulness during COVID-19. More specifically, this research offers an improved understanding of how COVID-19 has influenced athletes' mindfulness practices and its role in the lives of athletes during the pandemic. Most mindfulness and sport research have thus far focused on improving performance using mindfulness techniques. Therefore, there is little to no research on the general experiences of athletes practicing mindfulness and limited research on athletes' experiences during a global pandemic. This research has further developed the understanding of mindfulness and athletes' experiences practicing mindfulness during a pandemic.

In times of uncertainty, it is common for individuals to feel considerable stress. Stress is the cause of many adverse outcomes and may lead to depression (Tyssen, Vaglum, Grønvold, & Ekeberg, 2001) decreased job satisfaction (Flanagan & Flanagan, 2002), disrupted personal relationships, psychological distress (Jain, Lall, McLaughlin, & Johnson, 1996); and even lead to thoughts or attempts at suicide (Tyssen et al., 2001; Richings, Khara, & McDowell, 1986). Stress may also affect cognitive functioning by



disrupting attention, concentration, and decision-making. This stress could lead to feelings of doubt and rumination, which could then lead to symptoms of depression (Lukasik, Waris, Soveri, Lehtonen, & Laine, 2019). Thus, during periods of uncertainty, individuals are at an increased risk of being stressed, depressed, and suffering from physical illness related to stress. One potential tool that has helped individuals better manage their stress is mindfulness.

Mindfulness is practiced widely in society and in disciplines such as education, medicine, and, more recently, sport. Mindfulness has many reported benefits that not only improve stress management but may also improve other aspects of one's life. Mindfulness is reported to influence a number of different aspects such as cognitive abilities (attention, self-regulation, and stress levels) (Mirams et al., 2013; Tang et al., 2007); improve focus and conflict monitoring (Jha, Krompinger, & Baime, 2007); perception (van Vugt, 2015; Wallace, 1999); memory (van Vugt & Jha, 2011); reduce negative emotions (feelings of anxiety, mood, substance use, or impulse control disorder) (Arch & Landy, 2015; Kessler et al., 2005); regulate emotions (Arch & Landy, 2015); improve performance (Haase et al, 2016); and enhance overall well-being (Gross et al., 2018; Gardner & Moore, 2007; Van Doren et al., 2023). During the uncertainty of the pandemic, mindfulness may help manage stress and anxiety, especially for individuals with particularly stressful jobs, including essential workers, doctors, and nurses.

### **1.3 Purpose**

The purpose of this study is to explore the impact that COVID-19 has had on the mindfulness practices of athletes. Two research questions were identified to investigate the purpose.

### **1.4 Research questions**

The following research questions were developed for this thesis which explored the experiences of athletes with the cultivation and practice of mindfulness prior to and during COVID-19:

1. What was the role of mindfulness in the lives of athletes **prior** to COVID-19?
2. What was the role of mindfulness in the lives of these athletes **during** COVID-19?

In answering the two research questions above, the study will provide insight on the pandemic's effect on the mindfulness practices of athletes.

To begin to develop an understanding of the impact of COVID-19 on the mindfulness practices of athletes. A further exploration is needed on the subject of mindfulness generally as well as in sports; this will be accomplished in the next section, the literature review. The literature review will explore mindfulness and its relationship with sport and contextualize those practices within the COVID-19 pandemic. It will be followed by a description of the methods used in this research, then the results. The final chapter will include a discussion of the research findings.

## Chapter Two: Literature Review

This literature reviews reports on the COVID-19 pandemic, mindfulness and mindfulness as it relates to sport. The COVID-19 pandemic disrupted life patterns around the world. People worldwide were vigilant about spreading the virus to their family and friends. Yet, everyone wished their life would return to pre-pandemic regularity when masks were not required to stay safe and before the worry of a sneeze spreading the virus. As a result, the world started shutting down economies and limiting travel to minimize the spread of coronavirus.

The impact of the Coronavirus has disrupted the lives of almost everyone, including athletes, particularly high-performance (or elite) athletes. The year 2020 was supposed to be filled with rigorous training sessions and competing at international tournaments to prepare for the 2020 Tokyo Olympic Games. However, the year 2020 was the exact opposite, where most sports came to a halt. At a time when athletes were trying to qualify and prepare for the Olympics, athletes feared that all their hard work and dedication to their sport was for nothing. Dithurbide, Boudreault, Durand-Bush, MacLeod, and Gauthier (2022, pp.6-7) stated “ that athletes were struggling with mental health factors such as social (isolation, online communication fatigue) and environmental (financial responsibility), psychological (fear of the virus, loss of control), and public health (restrictions, routine disruption)”. In addition, sport events were being cancelled, and athletes were also struggling with when they could train and how their funding and sponsorships would continue. They also worried about their families’ and friends’ wellbeing. These worries only touch the surface of the uncertainty

they felt as elite athletes during the global pandemic, with many having additional fears and anxieties (Johnson, 2021).

Game Plan, Canada's total athlete wellness programme for national team athletes, recommended mindfulness to promote athletes' mental health during the pandemic (Game Plan, 2020). "Game Plan is a collaboration between the Canadian Olympic Committee (COC), Canadian Paralympic Committee (CPC), Sport Canada and Canadian Olympic and Paralympic Sport Institute Network (COPSIN)" (COC Game Plan, 2023). These recommendations arose from the collaboration of health care professionals and sporting organizations to manage the stress that athletes were experiencing from the uncertainty of the pandemic (Game Plan, 2020). Mindfulness is one of the resources provided for athletes in the programme. It has numerous reported benefits in the areas of cognitive functioning (Mirams et al., 2013; Tang et al., 2007); focus and conflict monitoring (Jha et al., 2007); perception (van Vugt, 2015; Wallace, 1999); memory (van Vugt & Jha, 2011); regulate emotions (Arch & Landy, 2015); performance (Haase et al., 2016); and well-being (Gross et al., 2018; Gardner & Moore, 2007; Van Doren et al., 2023). Thus, mindfulness has the potential to be a powerful tool for athletes to manage their health and well-being, in addition to having performance implications (Augustus & Zizzi, 2023; Goodman, Kashdan, Mallard, & Schumann, 2014). The literature review will provide context to the COVID-19 pandemic and its effect on sports and the lives of athletes. In addition, there will be a discussion on the background of mindfulness and the role it may have played in the lives of athletes.

## 2.1 COVID-19

In Canada, each province and territory declared a state of emergency in mid-March to “flatten the curve” of COVID-19 (Canadian Public Health Association, 2021). The state of emergency had required a country-wide shutdown of all industries. It resulted in the Federal government banning international and domestic travel within and outside of Canada. As well, citizens were to self-isolate and urged to remain at home unless it was essential to leave. Households were encouraged to designate one person to run errands and grocery shop. When one leaves the house, the expectation is to wash their hands often, not touch anything that was not needed, and stay at least six feet apart (Government of Canada, 2020). Even as stores were slowly opening, the Government of Canada (2020) recommended wearing a face mask in public, thus minimizing the chances of spreading the virus. Not only were masks used to protect oneself, but stores were also required to implement safety procedures to protect their workers and customers. The major safety procedures were: the installation of plexiglass at service counters, markers on the floor to indicate six feet apart when standing in lines, arrows to direct the direction you can walk, encouraged tap payments, and a limited amount of people were allowed in the store at once (Government of Canada, 2020).

Sport was severely affected by COVID-19. All sporting events and practices were postponed or cancelled in Canada and worldwide. Athletes could not attend practices at their local clubs and training facilities, attend camps, or compete nationally and internationally. Athletes were encouraged to take this as an opportunity of self-isolation, to work on biomechanics and physical deficiencies, and not to focus on peak

performance (Canadian Sport Institute Ontario, 2020). This announcement was unusual for athletes to hear, as athletes have an innate desire to progress in their sport.

Elite athletes spend years preparing, training, and competing in their sport. But early in the pandemic, athletes were expected to change their regime to minimize the spread of the virus (Sanborn et al., 2021). By altering their practices, athletes could have felt anxious and stressed by being out of their regular routine, and at risk for contracting and spreading the virus to others. More specifically, athletes were managing the uncertainty of when to return to their sport, how their practices and training would be affected, and how their training plans were adjusted to reach their personal goals of making national teams, such as the Olympic Games team (Bullard, 2020; Toresdahl & Asif, 2020).

Not only were athletes worrying about their sport, but they had the same stress that everyone else was experiencing. Athletes also had to isolate themselves from family and friends, worry about employment, and experience uncertainty about life in general. Therefore, the recommendation for Canadian athletes was to “focus on what is in their control and the opportunities that may exist” (Canadian Sport Institute Ontario, 2020). To help athletes to focus on what was within their control, elements of mindfulness were recommended to manage the uncertainties of the pandemic (Game Plan, 2020).

## **2.2 Mindfulness**

Mindfulness is the capacity to allow individuals to focus on their present-moment experiences with an attitude of openness, curiosity, and compassion. It may be considered an inherent human capacity that requires attention and practice to refine and cultivate it.

While the cultivation of mindfulness is commonly associated with its historical roots in Buddhist traditions, over the last four decades, mindfulness has been examined in the philosophy literature, combined with modern psychological theory and other disciplinary perspectives (e.g., medicine). Mindfulness has developed into secular training that has been studied and published in scientific literature and incorporated into clinical settings. It has also grown in popularity in health and wellness environments. Its popularity has grown along with an evidence base for potential benefits.

Dr. Jon Kabat-Zinn, widely touted as the founder of western mindfulness, has defined mindfulness as “the awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally” (Kabat-Zinn, 2013, p.xxxv). In other words, mindfulness is an immersive experience in a particular moment. "The goal of mindfulness is to fully experience moments in our lives by slowing down" (Shea, 2018, para. 9). Kabat-Zinn states that simple experiences of seeing, tasting, or walking become vivid and transformative when one becomes mindful of them. By slowing down, we may increase our awareness of the small things in life that we may have missed before. By being mindful, individuals may improve their health and well-being by consciously learning to work with the realities of stress and pain (Kabat-Zinn, 2013).

In 1979, Kabat-Zinn created the Mindfulness-Based Stress Reduction (MBSR) programme at the University of Massachusetts to treat the chronically ill using his Eastern mindfulness foundation with Western science (Ivtzan & Hart, 2016). The creation of MBSR caught the attention of the medical field and gained popularity in the west. Mindfulness practices in the MBSR programme have successfully reduced suffering from various illnesses. As a result, neuroimaging has detected brain structure and function changes (Hölzel et al., 2011). This programme has been replicated,

adapted, and widely offered in hospitals and clinics worldwide (Davis & Thompson, 2015; Kabat-Zinn, 2013). Since the implementation of MBSR, many different variations of Mindfulness-Based Interventions (MBI) have been created in several disciplines, including sport, which will be discussed in section 2.3 below.

### 2.2.1 Mindfulness-based interventions

One may experience many benefits by being present in the moment, including psychological and physiological benefits (Kabat-Zinn, 1994; Querstret, Morison, Dickinson, Cropley, & John, 2020). Two specific programmes help cultivate and develop the skills of mindfulness. The two main therapeutic programmes are Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT). These programmes aim to “improve mental health and reduce symptoms of stress, anxiety, and depression” (Fjorback, Arendt, Ørnbøl, Fink, & Walach, 2011, p. 102). It is essential to point out that mindfulness-based interventions do not target specific symptoms for change but involve the intentional practice of acceptance through mindful meditation (Hazlett-Stevens, Singer, & Chong, 2019).

Mindfulness interventions are about enhancing well-being. By learning to manage and reduce stress, individuals may live a happier and longer life. By better managing and reducing stress, people may also be less likely to develop illnesses and diseases (Bower, Moskowitz, & Epel, 2009). Not only are mindfulness interventions developed for individuals who may be struggling with stress or physical illnesses, but they can also be a preventive and performance-based tool for the general population.



### 2.2.2 Mindfulness-Based Stress Reduction (MBSR)

MBSR is an 8-week programme designed “to help one alleviate suffering associated with physical, psychosomatic, and psychiatric disorders” (Grossman, Niemann, Schmidt, & Walach, 2004, p. 35). The MBSR programme involves attending an eight-week group programme, where patients would meet weekly for three hours, with a six-hour silent retreat. The instructor also expects the patients to practice meditation and yoga at home for roughly 45 minutes a day, six days a week.

The MBSR programme was developed for patients who needed an alternative method of treatment that was outside the scope of the traditional medical system. The programme improved the patient's mental health by transforming their perception of pain and anxiety (Kabat-Zinn, 1990). For example, participants were invited to various meditations throughout the 8-week programme. While meditating, the participants focused on interest, acceptance, and a non-judgmental attitude of their pain, sensations, emotions, cognitions, and behaviours. By the end of the 8-week programme, participants reported different thoughts and attitudes towards pain, emotion, cognition, and behaviour (Fjorback et al., 2011).

### 2.2.3 Mindfulness-Based Cognitive Therapy (MBCT)

MBCT is a programme that has adopted the approach of the MBSR programme. The MBCT consists of cognitive therapy elements to prevent a depressive relapse (Fjorback et al., 2011). MBCT is structured the same as MBSR- it is an 8-week programme with one weekly 2-hour session. Even though the two programmes are very similar, MBCT does have some differences. MBCT assumes “an underlying pathology, whereas MBSR does not” (Praisman, 2008, p. 213). MBCT also labels negative thoughts and feelings as

disruptive and emphasizes the process of replacing those thoughts- MBSR would accept these types of thoughts without dwelling on them (Hamilton, Kitzman, & Guyotte, 2006).

The programme's design is "to help individuals make a radical shift in their relationship to the thoughts, feelings, and body sensations that contribute to depressive relapse" (Segal, Teasale, & Williams, 2013, p. 64). The programme's design is to free patients from the patterns of negative thinking and break the habitual, automatic patterns that lead to depressed moods (Segal et al., 2013). For example, the participant learns to notice when they are ruminating, remain open to what is happening in the present moment, and fully experience it (Fjorback et al., 2011; Finucane & Mercer, 2006).

As discussed, MBSR and MBCT are successful programmes that help patients reduce their overall suffering by improving mental health and reducing symptoms of stress, anxiety, and depression. In the next section, further exploration will examine the relationship of mindfulness and sport.

### **2.3 Mindfulness & sport**

Mindfulness was first introduced into sport to help athletes manage their stress. Experts such as Dr. Jon Kabat-Zinn and George Mumford considered mindfulness as a strategy for elite athletes to manage the stress of performing under pressure. "Pressure is an aspect of the situation, consisting of the importance of doing well on a particular occasion, which can affect athletic performance" (Cotterill, 2017, p. 30). Therefore, mindfulness developed as a strategy for athletes to let go of their expectations and judgments of achieving a desirable outcome and to focus on the process of the outcome that they want to accomplish by staying in the present moment. Ultimately, Dr. Kabat-

Zinn and George Mumford saw mindfulness as a strategy to improve athletic performance.

Dr. Kabat-Zinn introduced mindfulness to sport in 1984. Mindfulness was first practiced in 1984 by the U.S. Men's Olympic rowing team. The purpose of teaching mindfulness to these rowers was to help them prepare mentally for the Olympic Games by learning how to manage their stress (Kabat-Zinn et al., 1985). Overall, the Olympic athletes reported benefiting from the training (Haase et al., 2016). This was the only known time Kabat-Zinn contributed directly to sport with mindfulness until Phil Jackson asked for help in 1993 (Mumford, 2016; Muse, 2019).

Phil Jackson, the basketball coach of the Chicago Bulls (1989-1998) and Los Angeles Lakers (1999-2004, 2005-2011), asked Dr. Kabat-Zinn to find someone to teach mindfulness to the Chicago Bulls in 1993. Jon Kabat-Zinn recommended George Mumford because of his basketball and mindfulness meditation expertise. Since 1993, mindfulness has been used as a tool by Phil Jackson as a way to help athletes manage the pressure of success and manage mental and physical stress in sports (Mumford, 2016; Muse, 2019).

Today, the understanding of mindfulness within sport has grown. There is empirical evidence to support the contention that mindfulness may improve athletic performance and the well-being of athletes. Various sport-specific programmes are being developed in response to the success of mindfulness in sports. Before these programmes are examined, mindfulness in sport will be defined.

Mindfulness in sport is “a presence that is intentionally aware of and interested in what is occurring moment to moment” (Baltzell & Summers, 2016, p. 515). It includes

all human emotions, from intense fear and anxiety to moments of joy. The benefit of being mindful when performing is “retaining the ability to focus on task-relevant cues (to concentrate) and to interact wisely moment to moment with one’s environment” (Baltzell & Summers, 2016, p. 515). When an athlete is mindful during their performance, they have “the ability to tolerate distractions, such as fear, threat, or boredom such that the given distraction does not derail the performer from being present to opportunities (internal and external) for optimal performance” (Baltzell & Summers, 2016, p. 515).

### 2.3.1 Mindfulness intervention specific to sport

Developing sport-specific mindfulness programmes aims to assist athletes in their sport. They help athletes return to the present moment with the intent to improve athletic performance. Through mindfulness-based intervention programmes, such as the Mindfulness-Acceptance and Commitment Performance Enhancement approach (MAC; Gardner & Moore, 2004), Mindfulness Sports Enhancement Programme (MSPE; Kaufman, Glass, & Pineau, 2018), Mindfulness Meditation Training for Sport (MMTS; Baltzell & Akhtar, 2014) and Mindful Performance Enhancement Awareness and Knowledge (mPEAK; Haase et al., 2015), athletes learn techniques to manage their stress. These programmes also promote strategies that help athletes move beyond their past experiences and overcome the fear of the unknown. Phil Jackson, the legendary basketball coach of the Chicago Bulls and the Los Angeles Lakers, taught his athletes the value of practicing mindfulness:

To excel, you need to act with a clear mind and be totally focused on what everyone on the floor is doing. This means shutting out the world when what you

really need to do is become acutely aware of what's happening right now, this very moment. The secret is not thinking. It means quieting the endless jabbering of thoughts so that your body can do instinctively what it has been trained to do without the mind getting in the way (Haberl, 2016, p. 215).

In essence, mindfulness is a tool which athletes may use to achieve optimal performance by training one's mind. The 'jabbering' thoughts mentioned by Phil Jackson refer to the negative thoughts that can arise during a performance. For example, a negative thought could be that I will have wasted my time if I do not receive a medal. These negative thoughts attempt to disrupt an athlete's attention. The negative thoughts then create the issue that the athlete is unfocused regarding the present moment. Through sport-specific mindfulness programmes, athletes may learn to take their ideas and redirect them to be more attentive in the present moment. By being more attentive, athletes may improve their athletic performance. There are four primary sport-specific mindfulness programmes, which are Mindfulness-Acceptance-Commitment (MAC) Based Performance Enhancement Programme, Mindfulness Sport Performance Enhancement Programme (MSPE), Mindfulness Meditation Training for Sport (MMTS), and Mindful Performance Enhancement, Awareness and Knowledge (mPEAK),

The Mindfulness-Acceptance-Commitment (MAC) Based Performance Enhancement Programme was first developed to improve athletic performance. The programme is based on the understanding that performance outcomes are influenced by the athlete's ability to be non-judgmental in the present moment. The programme consists of seven one-hour weekly modules where athletes learn to modify their relationship with internal experiences (i.e., cognitions, emotions, and physiological

sensations), rather than seeking to change their form or frequency (Gardner & Moore, 2012; Gardner & Moore, 2007; Gross et al., 2018). The programme focuses on athletic performance and aims to enhance overall well-being outside of sport (Gardner & Moore, 2007; Gross et al., 2018).

The Mindfulness Sport Performance Enhancement Programme (MSPE) was developed to help athletes and coaches become more aware and accept present-moment experiences (Mistretta et al., 2017). Initially, MSPE was a four-week programme but it has further developed into a six-week programme to “increase mindfulness, flow, and self-rated performance, and to decrease sport-related anxiety and experiential avoidance in teams” (as cited in Mistretta et al., 2017; Kaufman, Glass, & Pineau, 2016). The programme's design flows is “an intuitive sequence that moves athletes progressively from sedentary practice to mindfulness in motion, culminating in a sport-specific meditation that involves paying mindful attention while engaging in their sport's core movements” (Kaufman et al., 2018, p. 4). The programme also emphasizes incorporating mindfulness into workouts, practices, competitions, and life outside of sports (Kaufman et al., 2018).

Mindfulness Meditation Training for Sport (MMTS) was created by Dr. Amy Baltzell, to reduce the time commitment of athletes to participate in a mindfulness programme, yet gain the same performance and well-being benefits as other programmes. The programme consists of five to ten minutes of daily practice, with 12 group sessions (30 minutes) over six weeks. MMTS increases mindfulness practice through meditation to improve concentration, open awareness, and acceptance in athletes (Baltzell & Summers, 2016). Evidence suggests that the programme does

increase mindfulness for athletes even though the time practiced is less than in other programmes (Baltzell & Akhtar, 2014).

Mindful Performance Enhancement, Awareness and Knowledge (mPEAK) was a pilot study created by Lori Haase that first used USA BMX Cycling Team participants in 2014. The programme consists of seven weeks of mindfulness training and a one-week follow-up. The first two weeks of the programme comprise two consecutive days of training (two modules per day, three hours per module) with six weekly follow-up foundational sessions of 90 minutes per session (Haase et al., 2015). The study found significant improvements in interceptive awareness (awareness of inner body sensations) and improving the facets of mindfulness (observing, describing, awareness, non-judgement, and non-reactivity; Haase et al., 2015; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006).

### 2.3.2 Benefits of mindfulness in sport

Athletes are evaluated continually and are judged on their performances, which may provoke anxiety and stress (Williams & Elliott, 1999; Alder, Ford, Causer, & Williams, 2016). Anxiety and stress may affect both performance and the athlete's experiences (Frame & Reichin, 2019). As this thesis seeks to demonstrate, mindfulness training may reduce anxiety and stress and enhance overall well-being for athletes.

Performance has features that can relate to mindfulness. Performance depends on the skills performed in the present moment and is influenced by information processing, memory, emotion, and cognition (Beilock, Afremow, Rabe, & Carr, 2001; Mardon, Richards, & Martindale, 2016). All these features with the practice of mindfulness can be enhanced. Thus, by practicing mindfulness, athletes may enhance athletic

performance and improve mental health, reduce injury risk, and help with injury recovery (Anderson, Haraldsdottir, & Watson, 2021)

The following section describes an examination of mindfulness and sport applications.

### 2.3.3 Application of mindfulness to sport

Elite athletes rise to the top of their sport through a combination of factors. They spend many years training and competing, dreaming of participating in the Olympic Games, World Championships, and other prestigious sporting events. These athletes aspire to stand atop the podium and represent their country, having earned their place among the best in the world in their sport. However, reaching and performing at the highest echelons of sport involves considerable stress throughout the athlete's career, and only those who can manage all stress levels will be successful in elite competition (Fletcher & Sarkar, 2012). Mindfulness is a valuable tool for athletes to manage stress throughout their sports careers and beyond. Athletes may use mindfulness techniques to manage their stress throughout their careers, especially at a competition on the international stage. Even the most experienced Olympic athlete can experience pressure and stress. Multiple Olympic gold medalist Natalie Coughlin, has shared a glimpse of her experience of stress at the Olympic Games:

The pressure at the Olympic Games is really overwhelming, even if you are experienced. The feeling of walking onto the pool deck, standing behind the blocks, knowing the race that you have prepared for the last four years or the past decade, that everything is going to culminate in that 58 seconds or so. It is quite stressful (Haberl, 2016, p. 212).



Often, Olympic athletes experience pressure and stress from the Olympic Games because they have perceived the Games as a once-in-a-lifetime opportunity. The pressure is created by the athletes feeling that they must perform at the Games, and if they do not perform well, they may have wasted a life of training. By using mindfulness, athletes can learn to let go of their expectations and judgments towards the results they have earned and focus on the process of the outcome that they want to achieve by staying in the present. These athletes train for most of their lives to compete for a few short minutes, determining whether they will earn an Olympic medal and hear their national anthem played. It would be ideal if these athletes could enjoy themselves at international games (Worlds, Pan Am, Olympics) and perform to the best of their abilities. By using mindfulness, athletes can further prepare for their athletic performance by training their bodies and minds.

Several athletes have spoken out about their cultivation of mindfulness and how they have integrated it into their sport preparation. Athletes, including Kobe Bryant, Clara Hughes, Bianca Andreescu, Novak Djokovic and Clare Egan are some examples. Each of these athletes are or were highly accomplished in their sport, and their success is due in part to the ability to be present. For instance, Canadian tennis player, Bianca Andreescu, has stated: “I don't only work on my physical aspect. I also work on the mental, because that's also very important. It's definitely showing through my matches where I'm staying in the present moment a lot of the time. I don't like to focus on what just happened or in the future” (Livaudais, 2019).

By practicing being in the present moment, American Biathlon athlete Clare Egan has learned to manage the distractions of competing. These distractions can cause different emotions to arise, and those emotions may be distracting to the performance.

By reducing the emotion that Clare is experiencing, she becomes more equipped to focus on the task at hand and not on the results:

If I hit this, I'll win the gold medal — as soon as you have that thought, you're definitely going to miss it," Egan says. "That extra push or desire to win is not only not helpful; it's counterproductive. You have to eliminate that from your mind and focus on the task (Parker-Pope, 2018).

Serbian tennis player Novak Djokovic has shared similar experiences as Clara by being aware when the brain catastrophizes.

I've done so much mindfulness that my brain functions better now automatically ... I used to freeze up whenever I made a mistake. Now when I blow a serve or shank a backhand, I still get those flashes of self-doubt, but I know how to handle them (Gupta, 2023).

Not only is being present the key to success for these athletes, but it is also how their inner voices speak. For example, Clara Hughes' inner voice needs to be positive in order for her to reach her goals in her life (Sage, 2016). For Clare Egan, it is about using cue words that help her focus, such as form, breathing, trigger and follow-through (Parker-Pope, 2018).

#### 2.3.4 Summary

This chapter reviewed the literature in mindfulness and mindfulness in sport, revealing the benefits of mindfulness in sport and how mindfulness is used in sport. With limited research on the experience of athletes practicing mindfulness and limited research on the impacts of COVID-19 on the practices of mindfulness of athletes, the most significant observation is that athletes have yet to share their lived experiences of practicing

mindfulness during COVID-19. With the number of different ways to practice mindfulness, this study can provide insight on how athletes either choose to engage or not in mindfulness practices and why. Therefore, a gap in the literature has been identified and presents an opportunity to explore athletes' perspectives further and contribute to the existing literature on mindfulness and sport. The following chapter will describe the methods used in this study, focusing on the role of mindfulness in the lives of athletes prior to and during the COVID-19 pandemic.

## **Chapter Three: Methods**

The study aimed to understand the role of mindfulness in the lives of athletes prior to and during the COVID-19 pandemic. The pandemic began in March 2020 when the World Health Organization declared the coronavirus a public health emergency and designated it a global pandemic. This investigation explored two areas relating to the role of mindfulness in the lives of athletes during the COVID-19 pandemic:

1. What was the role of mindfulness in the lives of athletes **prior** to COVID-19?
2. What is the role of mindfulness in the lives of these athletes **during** COVID-19?

This research will add to the existing literature on mindfulness experiences in developing a comprehensive understanding of how athletes practiced mindfulness during COVID-19. A qualitative approach was used to achieve the goals of this study. Qualitative methods are best used to understand a field of inquiry through interpretive practices to better understand the subject at hand (Smith & Sparkes, 2017).

### **3.1 Methods**

#### **3.1.1 Design**

The study used a qualitative design consisting of semi-structured interviews which were analyzed by using Thematic Analysis (Braun & Clarke, 2006).

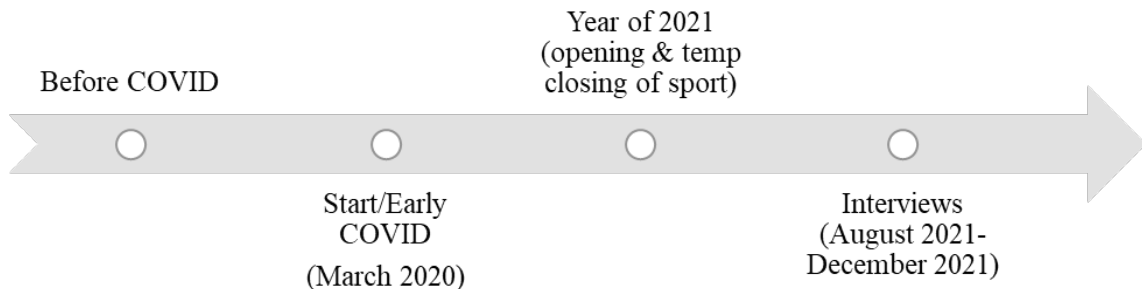
### 3.1.2 Inclusion criteria

Athletes eligible to participate in this study were aged 19 or older, had access to Facebook Messenger, and had competed at the provincial, national, or international level. Athletes had to have some previous experience practicing mindfulness.

### 3.1.3 Recruitment and procedures

**Figure 1**

*Timeline of research*



This study was reviewed by the University of New Brunswick Research Ethics Board (#2021-066). Recruitment started after the university research board (REB) approved the research study. Interviews took place when athletes were able to return to sport but with some remaining uncertainty if competitions (especially internationally) would be held. This period was between August 2021 and December 2021, when sport was being held regularly with COVID-19 regulations in Canada.

Snowball and purposeful sampling were used for recruitment. Recruitment occurred through social media advertisements by posting electronic flyers (Appendix A) on sport-specific Facebook groups, reading “Athletes practicing mindfulness,” and listing the inclusion criteria. Facebook was selected to recruit participants because it allowed multiple ways to interact with individuals and groups. For example, Facebook users could send instant messages through Facebook Messenger (FM) or comment on

individuals posts. The sport-specific Facebook groups that were selected are the provinces' Canadian Sport Centre or Institute page. The names of these groups are Canadian Sport Institute Calgary (Training Centre), Canadian Sport Centre Atlantic, Canadian Sport Centre Manitoba, Canadian Sport Institute Ontario, CSC Saskatchewan, and Canadian Sport Institute Pacific. The Team Canada Facebook page was also selected to recruit participants. These pages were chosen to recruit participants because the Canadian Sport Center is an organization that supports the development of high-performance Canadian athletes. The desire among participants (15-20) was not met, and a new selection of Facebook groups was reviewed. Canadian university teams' Facebook groups were contacted, and when permission was granted, the recruitment poster was posted in the group. The researcher also used purposive sampling by contacting three prominent athletes in the media through Facebook Messenger. The process consisted of using the new Facebook account through Facebook Messenger and messaging the individual athletes to see if they were interested in participating in the study. The message included information about the study and a consent form. There was no success in recruiting athletes directly.

Those interested in participating had three options for contacting the researcher: e-mail, Facebook Messenger, or commenting on the post. The researcher replied through e-mail or Facebook Messenger by sending the information and consent form (Appendix B). At this time, an interview would be scheduled between the person expressing interest in the study and the researcher. Before the interview would begin on the scheduled day, individuals gave informed consent by typing: "I agree to participate in this study, <first and the last name>" in the chat box, which indicated that they had read and understood the information and consent form and were willing to participate.

A semi-structured interview guide was developed to guide the conversation about the study of the phenomenon. These predetermined questions ensured that all participants were asked the same questions throughout data collection. The interview guide consisted of three sections. The first section was their demographics (e.g. Sport, gender, nationality). The second section of the interview collected information on the participants' understanding and experiences of mindfulness (e.g. Define mindfulness, what mindfulness practices do you practice?). The final section focused on how COVID-19 impacted their mindfulness practices (e.g. How do you think the pandemic changed the way you practice mindfulness?; Appendix C).

Interviews were completed virtually through an Instant Messaging service (Facebook Messenger). A trained female researcher (graduate student) conducted semi-structured interviews through synchronous typing in a single interaction and received ongoing supervision from her thesis supervisor (G.T.G.). Interviews started with participants completing a short demographics questionnaire, followed by questions in the interview guide. Interview questions were copied one at a time into the instant messenger, and additional questions were asked based on the participant's response. Participants typed their answers into the chat box and submitted their replies to the question. Interviews were 60-80 minutes in length. After the interview was completed, the participant could request to be immediately "unfriended" from the Facebook account. If the participant did not immediately request to be "unfriended," they were removed from the account after one month (if they had any additional questions). The transcripts were placed into a Microsoft Word document without the participants' names and replaced with a participant ID number. The Microsoft Word documents were saved in a password-protected folder on UNB's OneDrive cloud server.

### **3.1.4 Analysis and synthesis**

The data was analyzed using a thematic analysis approach. Thematic analysis allows researchers an approach to analyze, report, and identify themes within a dataset (Braun & Clarke, 2006). The researcher familiarized herself with the data through close reading of all interviews until she had an in-depth understanding of the content. The data was coded manually to allow the researcher to become immersed in the data. The data was sorted into three parts: demographics, prior to COVID-19, and during COVID-19. The interviews were coded line-by-line. The codes were sorted and converted into themes. A theme is the clustering of codes to identify patterns and/or meanings within the data. These themes were reviewed and discussed with the research team who ensured the themes and subthemes were applicable in relation to the generated codes. This review aided in confirming that the themes are appropriate in addressing the research questions (Braun & Clarke, 2006). For each theme identified, a detailed analysis was written. These steps, along with the checklist of criteria for a good thematic analysis (Braun & Clarke, 2006), were followed closely to ensure the thematic analysis was completed accurately. Data saturation was achieved when no further observations were made.

During the collection and analysis phases, the researcher maintained a bracketing journal. This journal was a tool to support the researcher in acknowledging and managing her biases and preconceived ideas of the phenomenon as it arises (Chan, Fung, & Chien, 2013). As her biases occurred, she took notes during the collection and analysis phase to avoid the data from being contaminated with her personal biases. The journal's purpose was to become aware of the researcher's bias and to truly analyze the data from the participants' perspectives.



## **3.2 Conclusion**

This chapter has discussed the details of the method used in this study. The next chapter will present and describe the results of the study.

## Chapter Four: Results

In this chapter the results of the study will be presented. The results section will first describe participants followed by an outline of major themes. The major theme section is divided into three main themes: A) Groundedness, B) Uncertainty, and C) Impermanence.

### 4.1 Participants

A total of 26 individuals responded to the advertisements, and 20 of those people participated in the interviews. The interview duration was 60-80 minutes. Table 1 displays the demographics of all participants and divided by gender: eleven responded as female, and nine as male. The majority of participants had post-secondary education (n=19) and Canadian nationality (n=18), and were from Atlantic Canada (n=15). Two international countries were represented: Sri Lanka (n=1) and Portugal (n=1). Participants engaged in 10 different sports, of which seven were individual sports (e.g. Boxing, running), and three were team sports (e.g. hockey, soccer). Some participants had competed only locally (n=3), while others had competed at the national (n=10) or international (n=7) level in their sport. Participants' mindfulness levels were classified based on years of practice and were classified as beginner (<4 years, n= 8), intermediate (5-9 years, n= 7) and advanced (>10 years, n=5) levels.

**Table 1***Participant Demographics Reported by Gender*

Participant Characteristics	Male (N=9)	Female (N=11)	Total (N=20)
Age (mean)	33.44	31.0	32.22
<i>Education</i>			
Bachelor	3	9	12
Masters	3	1	4
PhD	2	1	3
College	1	0	1
<i>Nationality</i>			
Canadian	8	8	16
Brazilian	0	1	1
Sri Lankan	1	0	1
Dual Nationality (Canadian)	0	2	2
<i>Location</i>			
Prairies (SK, MB)	1	0	1
Central (ON, QC)	0	2	2
Atlantic (NB, NS, PEI, NL)	7	7	14
Outside Canada	1	2	3
<i>Individual Sports</i>			
BJJ/Karate	0	1	1
Boxing	1	0	1
Open Water Marathon	0	1	1
Pole Fitness	0	2	2
Running	4	3	7
Track & Field	1	0	1
Ultimate Frisbee	0	1	1
Total	6	8	14
<i>Team Sports</i>			
American Football	1	0	1
Hockey	2	0	2
Soccer	0	3	3
Total	3	3	6
<i>Level of Competition</i>			
Provincial	2	1	3
National	4	6	10
International	3	4	7
<i>Mindfulness Experience</i>			
Beginner (<1-4 years)	4	4	8 (m= 1.9 years)
Intermediate (5-9 years)	2	5	7 (m= 6.5 years)
Advanced (10+ years)	3	2	5 (m= 16 years)

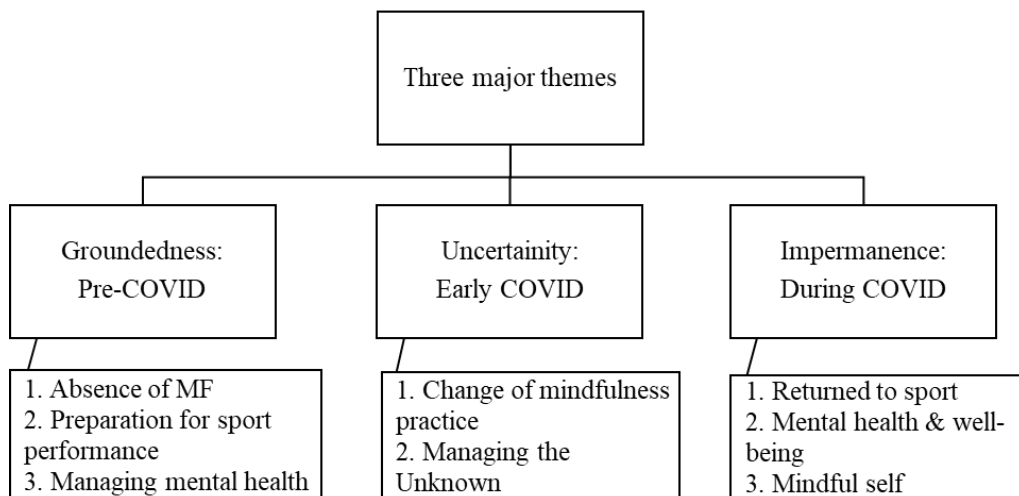
*Note.* SK=Saskatchewan, MB= Manitoba, ON= Ontario, QC= Quebec, NB= New Brunswick, NS= Nova Scotia, PEI= Prince Edward Island, NL= Newfoundland & Labrador.

## 4.2 Major themes

Three major themes were identified from the data: (a) Groundedness, (b) Uncertainty, and (c) Impermanence. The first theme describes the role of mindfulness prior to the pandemic. The other two themes are describing the role of mindfulness during the pandemic. A visual representation of themes and subthemes is found in Figure 2.

**Figure 2**

*Thematic Map of the Role of Mindfulness in the Lives of Athletes*



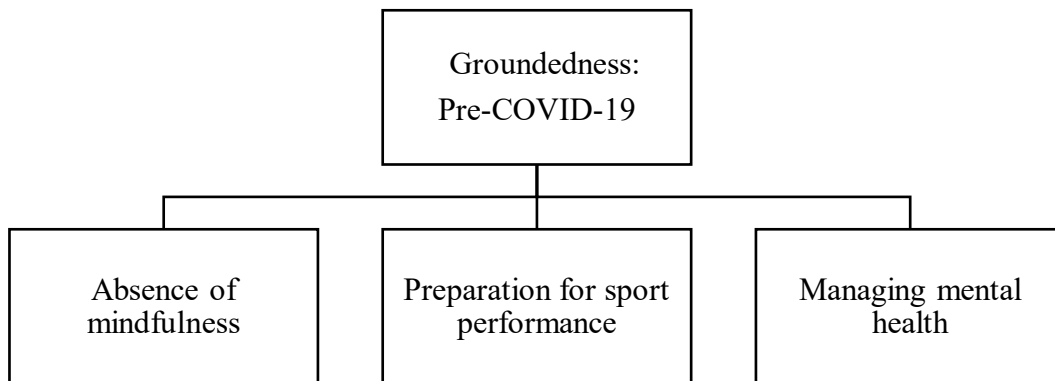
### 4.2.1 Groundedness: Pre-COVID-19.

The first theme, ‘groundedness’, refers to the time before the pandemic and describes the role of mindfulness in the lives of athletes before the pandemic (March 2020). The term grounded refers to the stability in the lives of athletes-athletes were experiencing their

daily routine. The term groundedness is being used to describe the period when these athletes' lives were stable before the pandemic (Figure 3). Three sub-themes were identified: absence of mindfulness, preparation for sport, and managing mental health.

**Figure 3**

*The subtheme of Groundedness: Pre-COVID-19*



**4.2.1.1 Absence.**

The sub-theme ‘absence of mindfulness’ refers to the practice of mindfulness not having a role in the lives of these athletes. Three of the 20 athletes reported not practicing mindfulness before COVID-19. Seventeen participants reported practicing mindfulness for sport preparation or health and well-being benefits. One athlete did not know what mindfulness was before the pandemic:

*“Not really [practice mindfulness]. I would use imagery with other things in my life, but not to the same extent and not for sport.” (Kevin, running).*

Two of the three athletes knew what mindfulness was but were not practicing mindfulness before the pandemic:

*“I had stopped practicing for the past couple of years or so, but recently started again”* (Sean, running).

#### **4.2.1.2 Preparation.**

The sub-theme of ‘preparation for sport performance’ describes the role of mindfulness in preparing athletes for training or sports competitions. One participant reported that they only practice mindfulness in sports for competition purposes:

*“Mostly competition... I can also focus on my breathing and do body scans when things start to get difficult”* (Sean, running).

Seven participants reported using mindfulness to prepare for training and competition:

*“Yes, the deep breaths were both before and during matches. During a boxing match, it’s important to get deep breaths during the fight because it helps you relax and also in between rounds to recover. And before was mostly to help with nerves and stay calm.”* (Jordan, boxing).

One participant shared how mindfulness was practiced during a soccer game:

*“I’ve used it in sports by focusing on what I need to do to perform well instead of worrying about the other teams’ assets... This would be while playing, instead of thinking “this player is really fast this might cause us trouble” I would switch my thinking to what needs to be done in the play, at this instant.”* (Josie, soccer).

One participant expressed that mindfulness is an essential part of preparing their minds for the suffering that will arise while participating in endurance sports prior to the pandemic:

*“Given that my activities are endurance based (ultra distance), mindfulness is absolutely essential in mitigating the swarms of physical pain and emotional doubt that stand in the way.” (Alex, running).*

Track athletes describe how mindfulness is used to accept the discomfort that arises in their sport:

*“I generally start with a period of quietness and thought where I visualize my upcoming performance and accept the discomfort I will feel during it.” (Darren, track & field-running).*

Another athlete shared a similar experience of how mindfulness is used to accept the suffering that arises when running:

*“It also prepares my mind for the pain that it's about to endure and to accept it. As for the breathing, it brings the stress and nervousness down before the race. But also, during the race, it helps to notice the pain, but keep the suffering away. It sorta calms the mind to say that I am supposed to feel this way (exhausted, etc), but that my body can still keep going. I like the quote: "pain is inevitable, but suffering is optional." (Sean, running).*

One participant shared how they continue to run even though they know they will be experiencing suffering ahead of time:

*“To prepare myself mentally for the race or long run. Runs that extend 3 hours or longer, I know I'm going to suffer at some point. So, I have to accept that ahead of time. If I know why I'm running that distance or time or race, I can*

*accept it mentally and push through the tough segments when they come instead of quitting.” (Ryan, ultra running).*

Also, mindfulness has a spill-over effect in helping athletes prepare their bodies for training and competition purposes:

*“As a tool to do a mental reset, I feel an emptying in my mind. I feel my heart rate decrease, and my tense body and muscles relax and loosen. I repeat my performance phrases to myself, and I clearly hear my voice repeat it back to myself, as if I'm listening to my self-guided meditation wherever I am.” (Anna, ultimate frisbee).*

Before the pandemic, the role of mindfulness was used not only for preparation and competition but also for mental health purposes.

#### **4.2.1.3 Managing mental health.**

The ‘managing mental health’ subtheme describes how athletes used mindfulness to improve their mental health. Twelve participants reported practicing mindfulness outside of sport and explained that they found mindfulness practices helped them cope with stress:

*“Mindfulness has been a practice that I utilize mostly in an 'informal' way while I go about my day or participate in activities. It's something I use as a means of self-care and as a means of coping with daily stressors, a way to ground myself and to come back to the present moment.” (Sally, running).*

Mindfulness was also reported as helping participants recognize the stress and anxiety that arise from their intrusive thoughts:



*“Recognizing and labelling intrusive thoughts and anxiety prompt me to ground myself with my breath and drop into meditation. This allows me to respond vs react to them... When thoughts come and I get distracted, I reconnect with my breath. Stay grounded and let those thoughts go.”* (Ryan, ultra running).

One participant shared how they lost control of their anxiety and how mindfulness was used to ground himself after the emotional event:

*“For example, I don't like to lose control at a bad driver but sometimes altercations happen, i.e.: this week. I then use the ruminating practice to move past having been emotional over losing my sense of power. so, a car almost hit me, and I yelled at him to look out next time. that reaction is best described as anxiety.”* (Cole, running)

Not only has mindfulness been used to help regulate emotions, but it has been used to help manage mental health conditions:

*“I am ADHD, so focusing on tasks can be very challenging. I use it in school if I find myself wandering (either in class, doing homework, tests). I also deal with anxiety sometimes due to racing thoughts and being unable to shut my brain down, In those cases I try and practice mindfulness in order to be in the present and slow my brain down.”* (Jordan, Boxing).

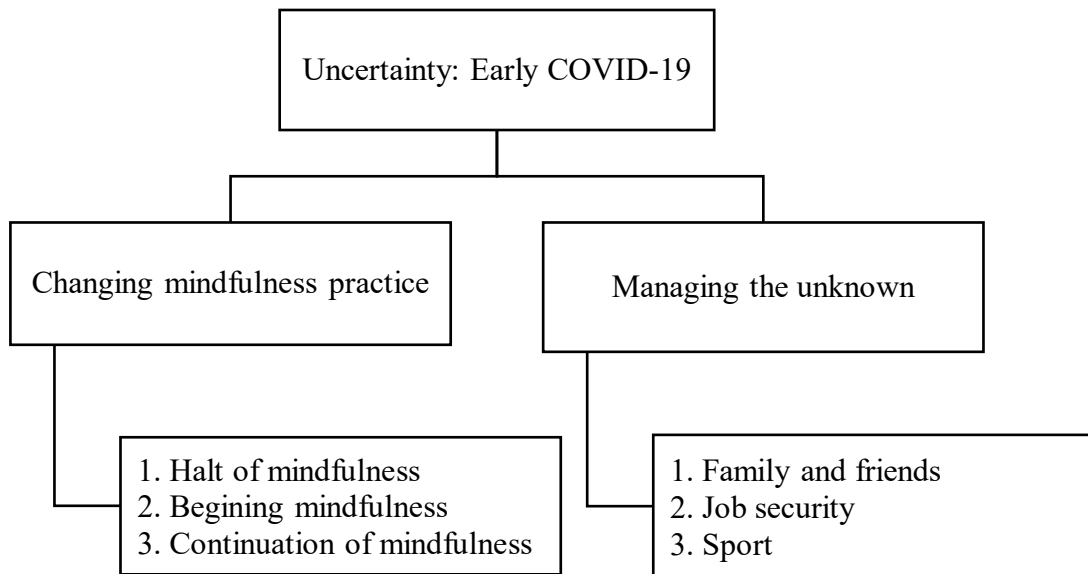
#### **4.2.2 Uncertainty: Early COVID-19.**

The theme ‘uncertainty’ refers to the unknowns that arose when the coronavirus first hit the world in March 2020. A disruption occurred to the athletes’ schedules and routines

in their sporting and daily life regimes. Two subthemes have emerged in this section: change of practice and managing the unknown.

**Figure 4**

*The subtheme of Uncertainty: Early COVID-19*



#### ***4.2.2.1 Changing mindfulness practice.***

‘Changing mindfulness practice’ refers to how the practice of mindfulness changed for these athletes. Athletes either experienced a halt to their mindfulness, began mindfulness, or continued mindfulness practices.

Three participants experienced an abrupt stop in their mindfulness practice because sport was no longer accessible:

*“I only use it in sporting contexts, so I had limited opportunities to practice.”*

(Darren, track & field-running).

These athletes reported feeling the effects of the pandemic on their sport in relation to their quality of life, and stated no interest in continuing to practice mindfulness:

*“When COVID first hit, it took me out of my routine because I was laid off work. So, I was staying up later and not sleeping as well, not really practicing mindfulness at all. My eating habits stayed pretty consistent. I was still training but my training did not have a purpose as there was no competitions, so I felt like was not getting much out of it. I was not practicing mindfulness as much in training because I was training on my own time with no coaches or obligations, so it was low stress.”* (Jordan, boxing).

However, eight participants reported that the pandemic gave them time to make changes in their lives, which included implementing mindfulness into their routines:

*“It's part of some broader changes I made in my life. I put a greater effort on taking care of my body which required me to listen to it more and be mindful... I made a concerted effort to lose weight and improve my overall health markers (blood pressure as the main indicator).”* (Kevin, running).

One other participant reported how her coaches influenced her to practice mindfulness to help with her anxiety and depression:

*“My coach tells me to do it to help with depression and anxiety. It also helps give me clarity and perspective on what is happening and what is going to be happening.”* (Clark, open water marathon swimming).

Sixteen athletes reported that they continued to practice mindfulness early in the pandemic. However, the technique or the frequency of the practice changed due to

practical lockdown reasons during the pandemic or psychological reasons such as increased stress due to the uncertainty of the pandemic.

*“Early in the pandemic, I was feeling very high anxiety and decided to lean even more on meditating. I committed to doing some daily, starting in the summer 2020, and it has helped me navigate pandemic life better. I am sleeping better and was able to lose weight and see more fitness results.”* (Shelby, distance running).

In particular, athletes struggled to navigate their sport early in the pandemic because no one knew how the pandemic would affect sports. During that time, mindfulness became a tool to help cope with the changes occurring in sports.

*“Combined with physical activity, mindfulness helps me to cope with the uncertainty of what could happen, with all of the disappointments and cancelled events that keep happening, and all of the “what if” thoughts that go along with it all” ... if anything, as a means of coping with the disappointments of sporting events being cancelled, trying not to think too far in advance for training and goal-setting but focusing on what's in my control in the here-and-now.”* (Sally, running).

Due to the restrictions of being unable to have gatherings indoors during the pandemic, ten participants reported that they had to change how they practiced mindfulness.

*“Doing yoga at home with Yoga with Adriene instead of in person classes, since the pandemic started”. So actually, do more often, now 3-5 times a week. I was previously just going to a Saturday class.”* (Sarah, running).

Another participant reported that she had time to try different things during the pandemic and tried eating mindfully:

*“At first it was an opportunity to try different things because I needed to cook more than what I was used to. Then I started to taste new flavours and savour them because I wasn't in a hurry to go to another place or have an urgent appointment. So even now that I'm getting back to "normal" I like to prepare some coffee or tea in the morning and take some time just to do it.”* (Taylor, Brazilian jiu-jitsu).

#### **4.2.2.2 Managing the unknown.**

‘Managing the unknown’ refer to how athletes were managing the uncertainties they experienced during COVID-19. Participants experienced many uncertainties about family and friends, job security, and sports. Although there were no clear answers as to how the pandemic would affect their lives, participants reported that mindfulness helped manage the stress of the unknown.

*“In Toronto, we had 18 months of lockdowns, and while I was more privileged than most, I felt a sense of despair for others and myself because of the ongoing restrictions and no idea if it was going to get better. At times mindfulness helped me combat those feelings, and at other times, I sat in those emotions.”* (Anna, ultimate frisbee).

During the time, when vaccines were not available, and travel was prohibited, many participants worried about their families' health:

*“My parents are in Toronto. They are elderly and my mom has lung issues. So, before vaccinations, I was very worried about them getting COVID.”* (Sarah, running).

Participants were also concerned for their job security:

*“Dealing with the uncertainties, not knowing if we would be able to keep a job, to have money for the next months or years.”* (Taylor, Brazilian jiu-jitsu).

A major unknown for most participants was how they would continue to train and compete in the sport domestically and internationally. Athletes had difficulties planning their training and competition season due to the ambiguity of restrictions. Often, athletes were prohibited from travelling due to change of restrictions:

*“Getting my hopes up for certain events, then they get cancelled due to rising case numbers and restrictions.”* (Sally, running)

When athletes experienced their competitions being cancelled, they were frequently left with frustration and uncertainty about when they would be able to compete.

*“Overall frustration with changing levels of restriction -inability to travel - inability to compete (as an athlete, this was a major source of frustration as I was training and training and training but was never able to compete).”* (Darren, track & field-running).

To combat the uncertainty of sports and to manage the disappointment of cancelled events, mindfulness was a way for athletes to cope with the loss of sporting events:

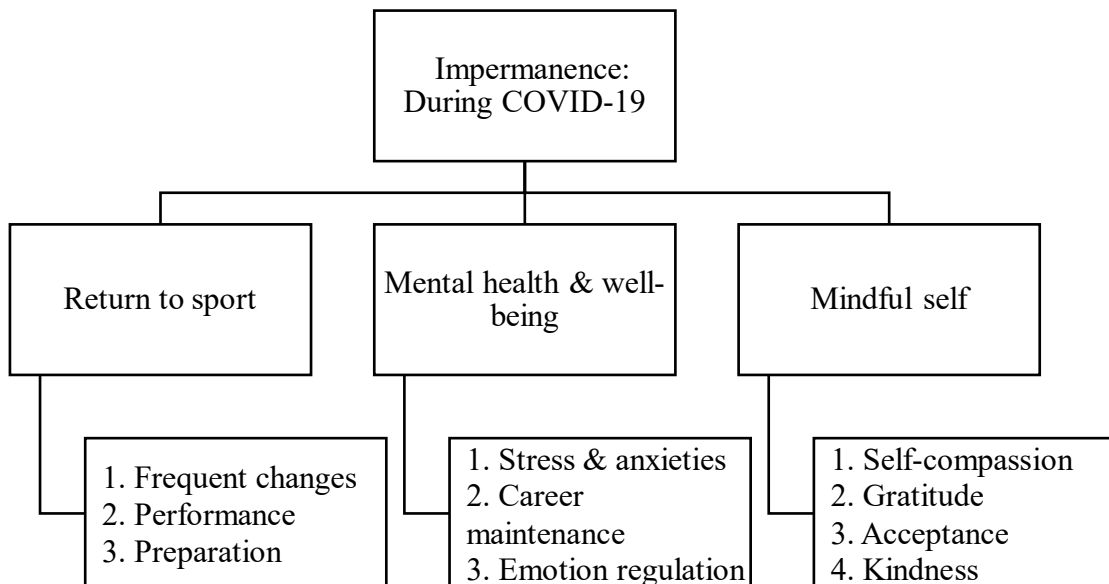
*“I practice mindfulness in sport- if anything, as a means of coping with the disappointments of sporting events being cancelled, trying not to think too far in advance for training and goal-setting but focusing on what's in my control in the here-and-now.” (Sally, running).*

#### **4.2.3 Impermanence: During COVID-19.**

The theme ‘impermanence’ refers to the constant changes due to the pandemic, with no certainty if something planned will be followed. The role of mindfulness seemed to be an essential part of managing the return to “normalcy” before the pandemic. The subthemes that emerged were returned to sport, mental health and well-being, and the mindful self.

**Figure 5**

*The subtheme of Impermanence: During COVID-19*



#### ***4.2.3.1 Return to sport.***

‘Return to sport’ refers to the time during the pandemic when practices and competitions were planned and prepared. During this time of the pandemic, competitions were continuously postponed due to rising COVID-19 cases. Athletes in this study reported that mindfulness helped them manage the frequent changes that occur in sports:

*“In sport - combined with physical activity, mindfulness helps me to cope with the uncertainty of what could happen, with all of the disappointments and cancelled events that keep happening, and all of the "what if" thoughts that go along with it all.”* (Sally, running).

Athletic performance was improved when athletes were returning to sport. Even though sport competitions were cancelled, some athletes reported that they reached their personal best during the pandemic:

*“I ran a new personal best time in the Virtual Abbott World Marathon Majors with the chance to spot at the Age Group Championships in 2022.”* (Cole, running).

Mindfulness continued being reported as a tool to be used for preparation and competition purposes. The role of mindfulness had the same purpose as before the pandemic:

*“Mindfulness has been helpful in the same way during the pandemic as before the pandemic.”* (Sean, running).



#### **4.2.3.2 Mental health & well-being.**

The ‘mental health & well-being’ subtheme describes how athletes used mindfulness to improve their mental health and quality of life.

Anxiety and stress were common themes during the pandemic; all participants shared a heightened increase in stress and anxiety. The majority of participants reported that mindfulness played a role in managing stress and anxieties:

*“COVID has placed added importance on mindfulness practices for me both in sports and outside. Made it more necessary for me to keep those practices consistent to deal with the chronic daily stress of working in health care...In the end, all stress adds to the bucket so to speak. So, mindfulness helps me lower stress, sleep better and maintain healthy eating habits which allows me to add that additional training in to my schedule.”* (Ryan, ultra running).

Three athletes reported that mindfulness played a role in how they managed the anxieties and stress of working in health care or in the public:

*“I use timed breathing during my work day the 4-4-4 breathing technique. I typically meditate before bed which is a breathing exercise and then sleep music”.* (Shelby, distance running).

Another critical aspect that mindfulness played a role in was emotional regulation. Many participants described how mindfulness has helped them respond to situations rather than reacting.

*“I’ll take a deep breath to refocus or notice my thoughts and emotions. I’ll also do it when I feel a reaction coming. Like losing my patience with my kids.*

*Sometime that deep breath gives me that extra second to figure out how to properly respond to the situation without reacting with frustration.” (Sean, running).*

Another participant shared that by noticing their intrusive thoughts, they can respond to their anxieties rather than react.

*“Recognizing and labelling intrusive thoughts and anxiety prompt me to ground myself with my breath and drop into meditation. This allows me to respond vs react to them.” (Ryan, ultra running).*

One participant had over 30 years of mindfulness practices and shared his insight on reacting vs responding:

*“it is the sense that I am not reacting but responding... that my impulses aren't leading me astray all the time. That I am not carried off by worries or fears or regrets. It's like not allowing my brain to fire flame mails whenever it feels like it, but to take others and myself into consideration. I don't see things as insurmountable problems, but everything as a moment to learn.” (Alex, cycling).*

#### **4.2.3.3 Mindful self.**

‘Mindful self’ refers to the positive characteristics and changes that occur in the self through mindfulness practices. Some positive characteristics developed from mindfulness reported by participants were self-compassion, gratitude, acceptance, and kindness. These positive characteristics were cultivated as participants practiced mindfulness throughout the pandemic. All four characteristics were used in sports and

their daily lives. In particular, one athlete shared her perspective on how mindfulness changed her thinking about sport, and about life:

*“This might sound weird, but I think the time that COVID took, gave me the time to realize what was really important to me, it gave me time to think about how I feel about sports and how I WANT to feel about sports... I realize that sports don’t define who I am and there is so much else that life is about, and I shouldn’t base my life on how I do in sports...So in a way, it has almost made me more mindful of what life is really about? In a positive way.”* (Ruth, soccer).

Another soccer player shared how she has been cultivating self-compassion through sport:

*“So, when I got back into soccer again once some restrictions were lifted, I obviously wasn’t performing as great as I was before COVID hit, this made it harder for me to convince myself that I belonged there. I basically just reword the way I talk to myself in my head in a way that leaves room for the realization that I’m human and any athlete that had to take a year off is going to perform different than before, and I’ll tell myself that I know I can get to the place where I was as long as I allow myself to...”* (Kayla, soccer).

Athletes also cultivated an appreciation for the time they have in sports:

*“I definitely appreciate every second of every training and every game because you never know when it could all end, so it made me more thankful.”* (Josie, soccer).

There was a change in perspective of the pandemic, as participants were cultivating acceptance and appreciation for what they have in their lives. Alex, a cyclist, shared that mindfulness...:

*“Has helped me see the good in things and that this whole pandemic will, as well, pass. I don't get terribly wrapped up in it or news about it very much as I know that will just pull me away from the present. It is just another experience. In my cycling... well, I spent a lot of time on the trainer, alone, and even outside alone -- mindfulness allowed me to appreciate that and just be thankful and aware of what I do have.”* (Alex, cycling).

Just like Alex, Shelby also shared appreciation for several things in her life:

*“My husband and I have been fortunate enough to both have work and be able to work from home full time. More time with my parents and sister (our bubble), more time at home with our dogs. I think just grateful overall for what I do have and that we have all stayed healthy.”* (Shelby, distance running).

In summary, the results have shown that the role of mindfulness had changed for athletes before and during the pandemic. Originally, mindfulness was a tool to help cope with anxieties and stress in sports, but during the pandemic, the role of mindfulness shifted. During the pandemic, mindfulness became essential in managing stress and anxiety, regulating emotion and mindfulness became integrated in the daily lives of most of the athletes in the study.

The next chapter will focus on the discussion, providing an analysis of the results and identifying the study's strengths, limitations, and implications.

## **Chapter Five: Discussion**

This study aimed to understand the role of mindfulness in the lives of athletes prior to and during the COVID-19 pandemic. Through interviews with the athletes and thematic analysis, three primary themes were identified: (a) Groundedness: Pre-COVID-19, (b) Uncertainty: Early COVID-19, and (c) Impermanence: During COVID-19. These findings provide insight on understanding the experience of the COVID-19 pandemic through the lens of an athlete. This chapter will discuss the five following topics in relation to the current study: a) principal findings, b) relation to other studies, c) strength and limitations, d) implications and future research, and e) summary and conclusion.

### **5.1 Principal findings**

This study identified three major themes in relation to the role of mindfulness in the lives of athletes before and during the COVID-19 pandemic. First, athletes reported that their mindfulness practice was groundedness -either mindfulness was absent, being used for sport, or managing their mental health. Uncertainty was the second theme identified. Uncertainty refers to the unknown and the disruption the athletes experienced when the pandemic first started. Due to the pandemic, mindfulness practice was changed (cessation, begin, or continued mindfulness practices) and managing the pandemic's unknowns brought to the world. Third, athletes reported a constant change (impermanence) due to the pandemic. Athletes experienced a continual shift in sport (the frequency of restrictions changing), and the athletes experienced a change within themselves. Generally, athletes reported that mindfulness played a role in managing the uncertainty of the pandemic but also found themselves cultivating a mindful self. This study revealed that mindfulness played a different role before and during the pandemic,

that mindfulness became a way to manage the constant changes and disruptions that the pandemic presented in the lives of athletes.

## **5.2 Relation to other studies**

A study by Poucher, Tamminen, Sabiston, Cairney, & Kerr (2021) examined the prevalence of symptoms of mental disorders, specifically depression, anxiety, and eating disorders among Canadian elite athletes. Athletes who participated in the study had to be training for the 2020 Olympic/Paraolympic Games. It was hypothesized that all symptoms of mental disorders will be positively associated with stress and training load (Poucher et al., 2021). Training load in particular has been identified as a common stressor for elite athletes (Poucher et al., 2021; Hamlin, Wilkes, Elliot, Lizamore, & Kathiravel, 2019). The study consisted of 186 athletes who completed an online survey of 156 questions that were divided into 5 sections. The five sections were demographics, stressors, social support, personal resources, and mental disorders (Poucher et al., 2021). The study found “31.7% of athletes reported symptoms of depression, 18.8% reported symptoms of moderate (12.9%) to severe (5.9%) general anxiety, and 8.6% reported scores indicating high risk of an eating disorder” (Poucher et al., 2021, p. 1). The results suggest that elite athletes may be more likely to experience certain mental disorders when compared to non-athletes and that strategies and tools need to be implemented for these athletes. This study relates to the current study by indicating that elite athletes are at risk for mental health condition due to stress and training loads. Although, the current study did not examine the training load explicitly, the athletes did indicate that they do feel stress within their sport. Majority of the athletes in the current study, used

mindfulness to help manage the stress that they felt in their sport, but also in their daily life.

Eleven Division 1 athletes in the late months of 2020 were interviewed in a qualitative study to determine how the COVID-19 pandemic affected their lives relative to their sport participation (Johnson, 2021). The study found that the athletes were missing their daily routine structure which impacted the athlete's motivation to train. Although motivation to train was impacted, some athletes reported to partake in self improvement exercises such as reading and mediating due to the new free time they had. In the absence of their athletic training schedule, these athletes look to engage in personal growth and development while they had this additional time. These activities were a response to the pandemic, which we also see in the current study. In addition, the current study reveals that personal growth and development could be cultivated from mindfulness practice as seen in the 'mindful self' theme.

Another study that examined how the pandemic affected athletes was a study by Sanborn et al (2021). The study used an online survey to recruit 437 Division 1 athletes. The purpose of their study was to determine if the pandemic increased the risk of anxiety and depression in athletes. In summary, the study found a low prevalence of COVID-19 related-anxiety (Sanborn, et al., 2021). The researchers explained that athletes during the time of the pandemic might have developed strategies for managing negative emotions and speculated this might be why they experienced low prevalence of COVID-19 related anxiety. Thus, these strategies could have prevented experiencing high anxiety levels (Sanborn et al., 2021). When comparing Sanborn et al (2021) study to the current research being examined, the anxiety related to COVID-19 differ among the athletes.

The current study reveal that they were experiencing anxiety, especially relating to the pandemic, such as concerns for loved ones, job security, and what would sport look like in the future.

Mindfulness was reported as being helpful to manage the COVID-19 pandemic (Conversano, et al., 2020). 6,412 participants, primarily women between the ages of 30 and 50, completed an online survey at the beginning of the pandemic. As a result, the researchers found that dispositional mindfulness enhances well-being and helps deal with stressful situations, such as the pandemic (Conversano, et al., 2020).

Rowe et al (2022) conducted a study that examined the perceptions of COVID-19 from collegiate student-athletes. Their study involves 18 collegiate student-athletes participating in a semi-structured interview over Zoom (an online video chat platform). They had four themes that emerged from the study: 1) ambiguity, (2) perspective, (3) bonding and cohesion, and (4) resource utilization. The theme of ambiguity and perspective were also supported in this study as it discusses the uncertainty and disappointment of competition surrounding sport. As well, participants' views changed throughout the pandemic in both studies. Rowe et al., (2022) study differs from this study by having the last two themes emerge: (3) bonding and cohesion and (4) resource utilization. Their study found that their relationships at school and home had changed due to the lack of socialization, team development, and support system dynamics. Lastly, student-athletes found themselves lacking their usual resources, including facility space. Participants from this study reported the lack of open facilities, which affected their participation in sports, but it was not a prominent theme like the Rowe et al., (2022) study.



Karipidis and Steinfeldt (2021) examined the potential benefits of COVID-19 on the long-term development of athletes. More specifically, it looks at the transitions athletes could experience during COVID-19, such as going from high school sports to college, active to retirement, and injuries. The study found that COVID-19 had negative consequences for long-term development athletes, with potential benefits to improve the quality of life during the pandemic. The negative consequences were psychological and physical impact, athletic identity, and subjective well-being. It was found that when athletes are experiencing a transition, such as the pandemic, “athletes are more likely to experience emotional disturbances and lower adjustment ability, compared to those with a multidimensional version of their self” (Karipidis & Steinfeldt, 2021, p. 256). The potential benefits of the pandemic for athletes were motivational perspectives for improved mental health, multi-dimensional identity formation and subjective well-being and life goals. It was stated that athletes could improve their mental health, specifically, the motives that drive their performance. Athletes should also develop a multi-dimensional identity, which will help with other transitions they will experience in their career and give them a unique chance to explore other interests outside of sport. Lastly, it was predicted that the pandemic “created an opportunity for athletes to cultivate a new mindset of being mindful, grateful, empathetic, spiritual, and altruistic, which would be predictors of improving well-being and life goals” (Karipidis & Steinfeldt, 2021, p. 258). Thus, the pandemic gave athletes time to improve their quality of life and better prepare for transitioning into a non-athletic life by developing a multi-dimensional self.

### **5.3 Strengths and limitations**

The strengths of this study were data collection and timing of the interviews. First, conducting interviews using an instant messaging service, Facebook Messenger, through real-time synchronous chat may have motivated participants to participate in the study. Participants could have been interested in an online instant messaging interview because of its conveniency and flexibility. Individuals can share their stories without leaving the comfort of their homes. Interviews in a written format might have also allowed participants to formulate their thoughts more reflectively versus responding to a question verbally in the researcher's presence. It will enable the participants to collectively develop a response rather than instantly respond in a face-to-face interaction. Which can ultimately provide more meaningful data for this study. Interviews were also conducted when sport and society were reopening to athletes, after a period of rescheduling and closure. The reopening of sports gave the researcher a unique opportunity to ask questions about how the athletes were experiencing the different stages of the pandemic. In addition, the study included a spread of varying age groups, sports, and mindfulness experiences.

In consideration of the findings, limitations ought to be considered to gain a better understanding of the study. This study had several limitations that should be acknowledged. First, the study initially had challenges in recruitment. Getting approval to share advertisement posters on Facebook sport-specific groups was difficult. This limited the opportunity for different sports and athletes to be involved in the study and may not present a true reflection of the experiences of different athletes and sports.

Second, the sport-specific groups that did approve the advertisement may present biases in the recruited participants. An assumption can be made that if an athlete is following a Facebook group or is a part of a particular Facebook group, they share a common interest, which is opposed to getting a true random population sample. As a result, a vast majority of the participants were competitive individual sport athletes., although some team sport athletes were interviewed. Future studies should explore the experiences of team sport athletes vs. individual sport athletes practicing mindfulness.

Third, written interviews may have limited the length of responses compared to an in-person or audio-call interview. It takes time to formulate and type responses to questions. Fourth, the time of the interviews might have eliminated some athletes from participating because their competition schedules were being planned and executed. Lastly, there was no second coder for this study. However, a discussion with the research team about the themes occurred.

#### **5.4 Implications and future research**

COVID-19 interrupted the world in March 2020 and affected the lives of everyone across the globe. With the virus being highly contagious, isolation and quarantining became a well-known theme in society which could have affected the mental health of individuals. Athletes had no exception being affected. Athletes were left with the same uncertainty that the general public felt, but they also had to worry about their training regime and how it would affect their sport.

This study, which explored the athletes' experiences practicing mindfulness during the pandemic, can be translated into helpful information for coaches and administrators

to continually support athletes' mental health, well-being, and any future disruptions to athletes. It is evident that mindfulness can play a role in managing anxiety within and outside of sport and potentially can help athletes' performances. The study also presented a unique opportunity to gain perspective on what athletes were experiencing in the pandemic and how mindfulness played a positive role in a disruptive event in their lives.

The findings of this study have also highlighted an area for future research related to athletes practicing mindfulness unrelated to the pandemic. Fourteen of the twenty participants who participated in the study have competed nationally or internationally in their sport. This raises the question of how mindfulness may influence the athlete's ability to reach athletic performance success. In this study, it was also mentioned that the pandemic allowed time for athletes to practice mindfulness. Thus, future research could examine how athletes' mindfulness practices changed since the pandemic and if mindfulness is still important in their daily lives.

## **5.5 Summary and conclusion**

The result of the study reinforces the findings of previous research on the experience of athletes practicing mindfulness during the pandemic. There were two research questions: first, what was the role of mindfulness in the lives of athletes prior to the pandemic and second, what was the role of mindfulness in the lives of these athletes during the pandemic? Both questions were answered by the methods employed in this thesis. This study's findings suggest that the three themes and their respective sub-themes, namely Groundedness: Pre-COVID-19 (absence, preparation, and health & well-being), uncertainty: Early COVID-19 (change of practice and managing the unknown), and

impermanence: During COVID-19 (returned to sport, mental health & well-being, the mindful self) are viewed as the role that mindfulness played during the pandemic for athletes. The results of this study are supported by the literature that mindfulness may play a significantly role in mental health, well-being, and athletic performance.

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## Appendix A: Social advertisement




# Athletes and Mindfulness

Athletes who practice mindfulness are invited to participate in a research project

- Must be 19 years or older; participate in activities such as: deep breathing, meditation, yoga, mindful eating, grounding exercises, or centering, on your own or in groups, and/or use a mindfulness app, e.g., Headspace, Smiling Mind, Calm, etc.
- Interviews are conducted via Facebook Messenger and take approx. 45-60 minutes
- This research aims to better understand the lived experiences of athletes practicing mindfulness during COVID-19

To participate, or for more information, contact Brittany Dillman at [bdillman@unb.ca](mailto:bdillman@unb.ca)

This project has been reviewed by the UNB Research Ethics Board and is on file as REB 2021-066



Guided meditation (photo: Brie Gallucci)  
<https://yogamedicine.com/athletes-tittle-gods-toria/>

## **Appendix B: Information and consent form**

### **Information and Consent Form**

#### *Mindfulness and Sport: The impact of COVID-19 on the mindfulness practices of athletes*

You are invited to participate in a study about the impact of Covid-19 on the mindfulness practices of athletes.

Mindfulness is an emerging practice in sport. Athletes have practiced mindfulness within the sport environment to improve mental and physical sport performance. Mindfulness means being intentionally aware of, and interested in, what is occurring moment to moment. Mindfulness may be practiced in different ways, including meditation, mindful breathing, mindful eating, yoga, and other related practices. It aims to help a person pay attention in the present moment, in a deliberate way, without judging the experience.

The study will use the Facebook Messenger application to communicate. The researcher will ask a variety of questions about how the athlete practices mindfulness. It will take approximately 45-60 minutes to complete.

Participants should be:

- 19 years of age or older
- An athlete (have competed at the provincial/regional, national, and/or international level)
- Practice meditation, yoga, mindful breathing, mindful eating, and related practices
- Have access to Facebook Messenger, and be willing to respond to questions with this application

The research study is being conducted by Brittany Dillman, a graduate student in the Faculty of Kinesiology at the University of New Brunswick. It is being supervised by Dr. Gabriela Tymowski-Gionet, also in the Faculty of Kinesiology at the University of New Brunswick in Fredericton (see below for contact information)

#### ***Participation***

Your participation in this research study is entirely voluntary. You may choose to not answer any questions, and you may withdraw your participation at any time by not submitting your responses without any consequences. There are no known or anticipated risks from participating in this study.

#### ***Confidentiality***



All answers provided during the interview will remain confidential and are read only by the interviewer and the research team. The data will be anonymized, and any of your identifiable information will be removed once the interview is finished. The original answers on Facebook Messenger will be deleted.

Quotations from the interview may be used in sharing the findings of this research, and they will not have any identifying information: any quotations will be anonymous. The research will be used for a thesis at the University of New Brunswick. The data will be electronically archived after completion of the study and may be made anonymously as part of the scientific publication process.

The findings may be made available in a scientific journal and at scientific meetings, to contribute towards a better understanding of how COVID-19 has impacted the mindfulness practices of high-performance athletes.

### ***Contact***

If you have any questions about this research study or the procedure, you may contact one of the research team members, Brittany Dillman at [bdillman@unb.ca](mailto:bdillman@unb.ca); Dr. Gabriela Tymowski-Gionet, via phone at 1 (506) 447-3231 or at [tymowski@unb.ca](mailto:tymowski@unb.ca).

The UNB Fredericton Research Ethics Board may be contacted if you have any questions or concerns about the project, the researcher, or supervisor. These concerns might include rights which have not been honoured, questions and concerns, or complaints. The Chair of the UNB Research Ethics Board is Dr. David Coleman, and he may be contacted at Sir Douglas Hall, 3 Bailey Drive, Fredericton, NB, or at [ethics@unb.ca](mailto:ethics@unb.ca).

If you would like to receive a copy of the results of this study, please use the above contact details to get in touch. Thank you for your interest in participating in this research.

### ***Electronic Consent***

**I have read and agree with the information above, and consent to participate in this study. I have had the opportunity to ask any questions that I may have, and have received responses to which I am satisfied.**

- **Please type in the Messenger chat the following statement:**

**“I *<your name>* agree to participate in this study”**

***This project has been reviewed by the UNB Research Ethics Board and is on file as REB 2021-066.***

## Appendix C: Semi-structured interview guide

This project has been reviewed by the Research Ethics Board of the University of New Brunswick and is on file as 2021-066.

The goal of the research is to examine the impact of COVID-19 on mindfulness practices of high-performance athletes. The interview questions will be about the mindfulness activities that you have participated in before the Coronavirus pandemic and how your mindfulness practice have changed due to the pandemic. If you do not feel comfortable answering a question, it may be left unanswered. As well, you may leave the study at any time, or afterward without giving any reason. All participants will be given participant ID numbers, and the demographic data will be collected anonymously.

In the first section, I will be asking you general questions about yourself

1. What is your sport?
2. What is the highest level of competition you have been involved in? (national, international, multi-sport events (Canada Games, Pan-Am, Olympics))
3. What is your age?
4. What is your gender? (male/female/other/prefer not to answer)
5. What is your highest level of education?
6. What is your nationality?
7. What is your home community? (city/town and province/country)
8. Where do you train? (city/town and province/country)

In the next section, the questions are designed to gain a better understanding of what you consider to be mindfulness and your experiences with mindfulness. Mindfulness can include but are not limited to breathing exercises, meditation, and body scans. Questions are open-ended with additional prompts

9. Broadly, how do you understand mindfulness? What does mindfulness mean to you?
10. How do you prepare your mind **and body** for sport competition? [Prompt: music, yoga, videos, imagery?]
11. Describe your introduction to mindfulness
  - a. Where did you first come across it?
  - b. Did you do formal training? (e.g. take a course, in person or online?)
  - c. Did you learn about it in sport, or outside the sport environment?
12. Did you practice mindfulness before the pandemic, or come to it during the pandemic?
13. Describe activities that you do, that you consider to be mindfulness practices, e.g. meditation, yoga, focused breathing, etc.
14. Describe how you have used mindfulness and related practices:
  - a. In sport

b. Outside sport

[Prompt: How long, how often, where, what do you do, to manage intrusive thoughts, to manage anxiety]

The current COVID-19 pandemic has brought some restrictions to prevent the spread of the virus. This means that non-essential businesses have been closed, including parks, gyms, and other exercise facilities, and has restricted the ability for athletes to train in their normal conditions. These questions will be concerning how COVID-19 has impacted your mindfulness practices. The questions will be open-ended with additional prompts.

15. How do you think the pandemic, COVID-19, has changed the way you practice mindfulness:

- a. In sport?
- b. Outside sport?

[Prompt: improve sleep, eating habits, performance?]

16. How do you think mindfulness has been helpful to you during the pandemic?

- a. In sport?
- b. Outside sport?
- c. Do you think it has had other effects on you, perhaps not helpful?

17. Do you share your mindfulness practices with others?

18. Do you think that you will continue practicing mindfulness after the pandemic?

Thank you for your interest in the study, as it is much appreciated. Your answers will help us better understand the impact of COVID-19 on the mindfulness practices of high-performance athletes. Please stay safe and healthy. If you wish to receive the findings on this study, please send an email to [bdillman@unb.ca](mailto:bdillman@unb.ca).

## Curriculum Vitae

### Candidate's full name

Brittany Paige Dillman

### Education

University of New Brunswick | Master of Science- Kinesiology and Exercise Science |  
In Study

University of New Brunswick | Diploma University Teaching | May 2020

University of New Brunswick | Bachelor of Arts in Psychology | May 2018

University of New Brunswick | Bachelor of Recreation and Sports Studies | May 2015

### Publications

Thesis will be submitted for publication.

Dillman, B. P. (2020). A literature review on mindfulness and elite athletes. In K.

Georgiadis (Eds.), *Olympic Studies: 26<sup>th</sup> International Seminar on Olympic Studies for Postgraduate Students* (pp. 198-204). Athens, GR: The International Olympic Academy.

### Conference Presentations

**Dillman, B. P.** (Presenter) Tymowski-Gionet, G., SU. (2023, March 30-31<sup>st</sup>).

*Mindfulness and sport: The role of mindfulness in the lives of athletes during COVID-19.* Atlantic Provinces Exercise Scientists and Socio-culturists 2023 Conference.

**Dillman, B. P.** (Presenter). (2019, May 8-30<sup>th</sup>). *A literature review on mindfulness and elite athletes.* 26th International Seminar on Olympic Studies for Postgraduate Students.

### Conferences Attended

Atlantic Provinces Exercise Scientists and Socio-culturists 2023 Conference, Université de Moncton (2023, March 30-31). Moncton, NB.

Urban Aboriginal knowledge network (UAKN) Atlantic's Conference, University of New Brunswick (2019, February 19-21). Fredericton, NB.

A Mindful Society Conference, university of Toronto (2018, May 25-27). Toronto, ON.

Group-Based Trajectory Modeling for the Medical and Social Sciences, University of New Brunswick (2018, October 22-24). Fredericton, NB.

### **Certifications**

Core Foundation of Project Management-16 hours, Mitacs (2021, February 24-25), online.

Certification of Participation of IOC Young Leader six-week learning sprint (2020, November 2-December 11), online.

Certification of Attendance of 9<sup>th</sup> International Scholars' Symposium by the International Olympic Academy in cooperation with the Center for Hellenic Studies, Harvard University (2020, December 5-6), online.

Certification of Attendance of the 26th International Seminar on Olympic Studies for Postgraduate Student, The International Olympic Academy (2019, May 8-30) Athens, Greece.