HIGH SCHOOL EDITION
Journal of Student Research
Volume 12 Issue 4 (2023)

Analysis of Effective Mindfulness Training in East Asian Dominant Sports: A Comparative Study

David Kim[1] and Padraig Lawlor[1#]

[1]Canterbury School
[#]Advisor

ABSTRACT

Mindfulness training has emerged as a potent tool for augmenting sports performance, particularly in the realm of East Asian Dominant sports like table tennis, archery, and martial arts. This paper undertakes a comprehensive exploration of these sports and their associated mindfulness training techniques. The core objective of this study is to delve into the foundational principles underpinning mindfulness methods employed within each sport. The mindfulness training techniques under scrutiny encompass a range of methodologies, including The Mindfulness for Performance Programme (MFP), Acceptance and Commitment Therapy (ACT), Visual Motor Behavior Rehearsal (VMBR), fear training, The Mindfulness-Based Peak Performance Program (MBPP), Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), Chan-based Dejian Mind-Body Intervention (DMBI), and various other general practices tailored to aid athletes during competition. Through an in-depth analysis of the outcomes in each sport, it becomes evident that these techniques wield significant influence. MFP, ACT, and VMBR enhance table tennis match performance, MBPP, MBSR, MBCT, and ACT bolster focus levels in archery, while DMBI sustains the focus and flow state of martial artists. Collectively, the findings converge towards the conclusion that mindfulness practices offer substantial advantages to athletes in both competitive scenarios and training environments. These mindfulness methodologies effectively mitigate anxiety, stress, and distractions often encountered during competitions. Simultaneously, they foster heightened levels of focus, flow-state experience, mind-body connectivity, and overall mental resilience. The adoption of these practices translates into improved competition performance, manifesting in notable score increments and an augmented medal tally in respective sports.

Introduction

In recent times, there has been a growing curiosity surrounding unconventional strategies aimed at enhancing physical performance and overall well-being in the realm of sports mindfulness. Among these novel approaches, the utilization of mindfulness training has surfaced as a potential remedy, conferring athletes not only a mental edge but also complementing their sporting prowess. Dissimilar to the Western application of mindfulness, which uses similar techniques originated from Eastern mindfulness and gained popularity through secular establishments, Eastern mindfulness originated within East Asia by diverse spiritual customs. Eastern mindfulness is traditionally practiced for religious and spiritual reasons in the Eastern world. This type of mindfulness is based on the focus of the present moment, not losing the concentration of it through distraction, wandering, or unnecessary thinking. Western mindfulness adopted from Eastern meditation primarily advocates meditation in the aims of relieving stress and improving overall health in human beings. The different types of meditation in the Western aspect consists of but is not limited to yoga centers and mindfulness instructors. As Eastern mindfulness focuses on the concentration of the present moment without distraction, this is a potential benefit to any sport. In sports, athletes require 100 percent attention during competition, especially due to stress, nervousness, and distractions. Therefore, the idea of incorporating eastern mindfulness can have great potential in sports.

Foundations of Mindfulness in East Asian Philosophy

The foundations of mindfulness can be traced back to many ancient East Asian philosophies such as Hinduism, Buddhism, and Taoism. Hinduism, often regarded as one of the world's oldest religions, emerged from a synthesis of diverse religious traditions within the geographical boundaries known as modern-day India. Throughout many years of history, mindfulness has been linked to Hinduism. The history of Hinduism is similar in many aspects of mindfulness because of the Bhagavad Gita —an episode recorded in the Mahabharata, a Sanskrit epic poem of ancient India— discussions of yoga, to Vedic meditation, a type of meditation part of the Hindu religion. Buddhism is another important religion in the history of mindfulness, and it should be known that Buddhism greatly adopted beliefs from Hinduism. Buddhism was founded approximately 400-500 B.C.E. by Siddhartha Gautama, well known as the Buddha. Siddhartha Gautama is believed to have been born and raised in India and Nepal. Based on where and when Gautama was born, Hinduism is believed to have influenced his rise. Buddhism and Hinduism have many similarities since they both evolved in the same region in India and are largely focused on the concept of dharma, a way of life that is at peace with the nature of the universe (Selva, J, 2017). Taoism is a Chinese religion, originated from the philosopher Lao Tzu. This philosophy emphasizes living in harmony with nature states in its main text, the Tao Te Ching. There are several different types of Taosim's own meditation, but it was also influenced by Buddhist mindfulness practices brought from India in the 8th century (Dienstmann, G., 2023). Each religion adopted teachings from one another incorporating them into their own mindfulness practices.

The repertoire of mindfulness practices encompasses three distinct techniques: Mindfulness-based Cognitive Therapy (MBCT), Chan-based Dejian mind-body Intervention (DMBI), and Acceptance and Commitment Therapy (ACT). The origins of these techniques come from East Asian beliefs and religion. MBCT's philosophical origins are rooted mainly in Taoism and Buddhism. The idea that life is an activity at which we sometimes fail but at which we can keep trying until the activity becomes effortless and we become one with the activity is a Taoist belief with roots in this technique. Living can be viewed as a skill that can be developed through practice. By doing this, we give ourselves the chance to stop suffering through life and start appreciating the experience. Buddhism holds that when we worry about the future or constantly gaze forward in time, we reject the present moment and wish we were at some other time when our wishes are likely to be satisfied. If we are continually striving, we will never reach a place in our lives where we feel at peace. We sacrifice the richness of the present by leading such a life, always hoping for success in the future. The beliefs behind MBCT are fostered by the training technique (Murguia, E., & Díaz, K, 2015).

DMBI is rooted in Mahayana Buddhism. This East Asian religion gives us positive ideas about the issues in one's life. A traditional Chinese Chan (Zen)-based mind-body intervention, which was created based on the Shaolin temple's medical theory, has four interrelated parts: Chan practice (self-awareness and enhancement/psychosocial education), mind-body workouts (such as instruction in Dan Tian breathing, shoulder relaxation, and nasal massage), dietary modification, and clearing of the bodily orifices are all included in DMBI and are intended to enhance both physical and psychological health (Yu, R., Jean, W., Agnes, C., & Sophia, S. 2014).

Functional contextualism is the basic philosophical idea on which ACT is developed. This type of thought looks at how a person's present and historical surroundings affect and predict all of their external (like walking) and internal (like thinking, perceiving) behavior. If a behavior is beneficial, functional, or in any other way helps an individual in achieving a goal, then that conduct is pragmatic for the individual and doesn't need to be modified. In other words, in order to get the most performance out of oneself, people would need to be aware of their mind and body behavior and make adjustments (Bricker, J. B., & Tollison, S. J. 2011).

Benefits of Mindfulness Training

Incorporating mindfulness training into an athlete's routine offers significant advantages that extend beyond physical performance. One notable benefit is in its potential to boost mental resilience and prevent stress often associated with competitive sports. The high-pressure environment of sports can lead to increasing levels of stress and anxiety, which

might weaken an athlete's optimal performance. Mindfulness techniques, such as focused breathing and attentive body scanning, equip athletes with effective strategies to manage pre-competition anxieties. By adopting these techniques, athletes can sustain a composed mental state, effectively figuring out stressors that may arise during important moments. A study conducted on male collegiate soccer players show that the use of mindfulness meditation in their training is beneficial. Pre-test scores for the perceived stress scale recorded a mean of 16.06, and post-test scores for the same scale recorded a mean of 15.06, reducing the average levels of stress among the participants (The Sport Journal, 2018).

Furthermore, mindfulness cultivates an enhanced sense of concentration and focus, providing athletes with the tools to hone their attention during potential distractions. Engaging in mindful practices strengthened athletes to put their awareness to the present, enabling full engagement with their immediate tasks. This elevated focus has the potential to influence their decision-making abilities, increase situational awareness, and foster a better connection with their sport, ultimately contributing to the competitive aspect (Filipe Bastos, MSc Psychology & Founder MindOwl Founder, 2022). The senses and emotions cultivated by mindfulness practices is proved by a study on 101 people, responding to the emotions they feel from regular meditation. The participants responded with benefits of improved inner peace/calm, clarity/ clear-mindedness, less anxiety, not reacting to external chaos, improved focus, better sleep, being more present, better memory and cognition, positive attitude/ mindset, and more energy/ vitality after partaking in meditation, a form of a mindfulness practice (Parato, S., 2019).

A rising data of studies highlights the benefit of mindfulness training on athletic performance as the body of evidence continues to develop. Studies are increasingly supporting the ability of mindfulness practices to improve sports-specific skills, as seen by improvements in table tennis competitions, archery, and martial arts. Additionally, mindfulness has been linked to increased motivation, self-assurance, and a stronger sense of flow—a level of engagement in which an athlete performs at their best. These results highlight the importance of using mindfulness training in sports to improve both the physical and mental aspects of athletic ability.

Table Tennis

Research into the effects of mindfulness on table tennis has revealed intriguing insights into how this practice can influence various aspects of the athlete's performance and overall well-being. The types of mindfulness training that table tennis participates in range from physical techniques to mental techniques such as meditation or mindful breathing. Mindfulness significantly aids in the training that these athletes perform in by improving their skills.

During the intense training sessions for table tennis athletes, these athletes focus on the different hit movements, forehand and backhand, while continuously repeating the same motion so that mistakes do not happen frequently. Other training sessions include physical conditioning. Table tennis is a physically demanding sport that requires quick reflexes, hand-eye coordination, and good stamina. Therefore, professional table tennis athletes participate in physical conditioning exercises to improve their strength, speed, and endurance by mainly running, weight lifting, and plyometric exercises. (EmRatThich, C. 2023). This training requires much energy from athletes mentally and physically in focusing on the ball and hitting it at the perfect time as well as the overall training that is required to be the best. This is where mindfulness training in table tennis helps athletes as practicing it improves concentration and general performance in an athlete. It enables an athlete to focus on the present moment and allows them to concentrate on the ball coming towards them, notifying the brain to shift their feet in the right direction and swing the paddle at the right moment. Many mental techniques are utilized to perform such an action during competition.

The Mindfulness for Performance Programme (MFP) is one of these practices used for table tennis athletes to improve their performance during competition. This program is part of the Mindfulness and Acceptance Based Interventions (MABI), enhancing the awareness of one’s present experiences. Using East Asian techniques of mindfulness in meditation, it connects with the Asian philosophy that this program adopts from. Different variations of this practice is utilized in other East Asian sports such as the Mindfulness Acceptance Commitment used in Malaysian

squash athletes to achieve positive outcomes of focus (Wong, R. S. K., How, P. N., & Cheong, J. P. G., 2022). The main objective of this technique in this study is to help athletes concentrate with efficient focus during high-pressure situations that may disturb them. This program conducted on French table tennis athletes lasted for about 6 weeks consisting of three main stages: identification of foci of attention, mindfulness and acceptance training, and integration into training and competition. The first stage, identification of foci of attention, aimed to choose appropriate foci of attention and use them. According to the research on the effectiveness of various performance-focused attention strategies, athletes in this study assisted in determining their relevant areas of concentration. Adopting an external focus was advised at this point of the MFP program, but the decision of the focus of attention remains individual concerning the nature of the activity and the level of ease of the action. Athletes are encouraged to note their typical foci, assess their effectiveness, and swap out any that are harmful or ineffective with newer, more pertinent ones. The next stage, mindfulness and acceptance training, consisted of training the athletes' mental skills. Athletes are exposed to mindfulness learning and practice through daily ten-minute meditation exercises and extremely brief workouts. After that, acceptance practice is used to assist athletes in dealing with distractions rather than avoiding or substituting for them. It is trained through daily, ten-minute exercises in acceptance. The workouts then become shorter and alternate between concentrating on breathing and moving to a voluntarily distracting activity. The objective is to develop the ability to quickly return to the job at hand when distractions arise, just like in competition. The last stage, integration into training and competition, aims to utilize the skills in the previous stage in practice and competition. The scans get shorter and more frequent for the six weeks, and they are timed to coincide with appropriate breaks in training or contests. In order to maintain their concentrate on the work at hand and immediately refocus on the focuses specified in the first stage when they are distracted by internal events like thoughts, emotions, or sensations, athletes are encouraged to use these tactics during contests (Tebourski, K., Bernier, M., Ben Salha, M., Souissi, N., & Fournier, J. F. 2022).

Ten male, French table tennis players that participated in the study trained for at least 10 hours per week without any training of mindfulness beforehand. The effects of the most MFP show significant improvements in these athletes' performance during competition. Most of the athletes' scores went up during a match from before the programme and after participating in the programme shown in figure 1. (Tebourski, K., Bernier, M., Ben Salha, M., Souissi, N., & Fournier, J. F. 2022).

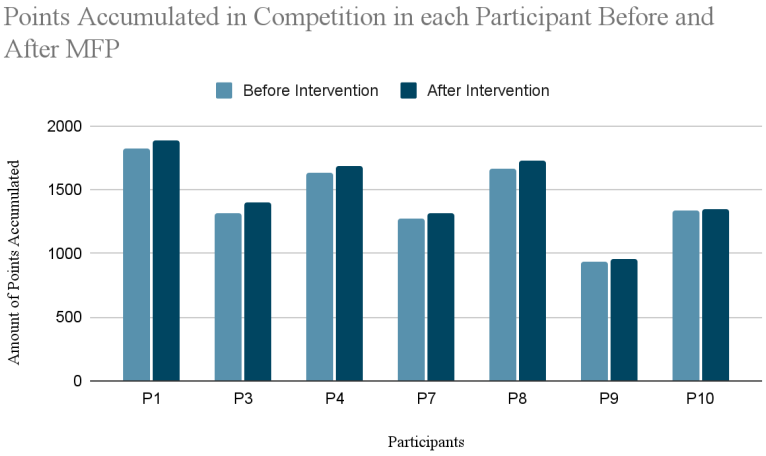

Figure 1. This graph shows the amount of points each participant in the study accumulated before and after partaking in MFP. The left light columns show before the intervention and the right dark columns show after the intervention. (Tebourski, K., Bernier, M., Ben Salha, M., Souissi, N., & Fournier, J. F. 2022).

This study proves the effectiveness of the MFP in table tennis athletes' overall performance in competition. Ultimately, this technique allowed athletes to improve focus by getting to know their minds, accepting it, and engaging in what is important to the individual athletes. As a result, the scores in these participants all increased.

Acceptance and commitment therapy (ACT) is another mindfulness technique utilized to improve table tennis athletes' performance. As more of a therapeutic mental practice, ACT is a practice that connects a person's personal values to overcome harmful experiential avoidance and cognitive defusion. The ability to bring attention completely to the present moment is designed to counter experiential avoidance by learning direct and non-evaluative contact with present experiences. Due to the fatigue and declining performance in athletes caused by burnout, evidence has shown that the ACT can significantly reduce this feeling (Zhang, C.-Q., Si, G., Chung, P.-K., & Gucciardi, D. F. 2016). In this study conducted on Chinese table tennis adolescents, along with scales and questionnaires such as Mindful Attention Awareness Scale, Acceptance and Action Questionnaire II, and Athlete Burnout Questionnaire, the effects were significant. It was found that the mindfulness ability to focus attention and awareness on one's negative thoughts and feelings instead of trying to dis-identify with them helped athletes prevent the occurrence of emotional/physical exhaustion and the feelings of reduced sense of accomplishment.

Additionally, the visual motor behavior rehearsal (VMBR) is another method that significantly improved a table tennis athlete's performance in their training. This technique involves mentally recording an event and playing it again. VMBR holds the idea that using imagination before performing a task may make it simpler and more precise. It enables athletes to become aware of their motor performance weaknesses and, in return, helps them reduce errors during competition (www.tmfv.com.ua. 2023). This study was conducted on 50 male Table Tennis players of state level from Inspire Table Tennis Academy, Secunderabad Telangana, India, to prove the effectiveness of VMBR in the performance of Indian athletes. Based on these results as shown in figure 2, it can be stated that VMBR is an effective mindfulness technique when decreasing the levels of negative feelings in an athlete and increasing the performance during training or competition. The confidence of each Indian athlete increased after the test as well as their consistency and control. The negative feelings also decreased from pre to post somatic and worry.

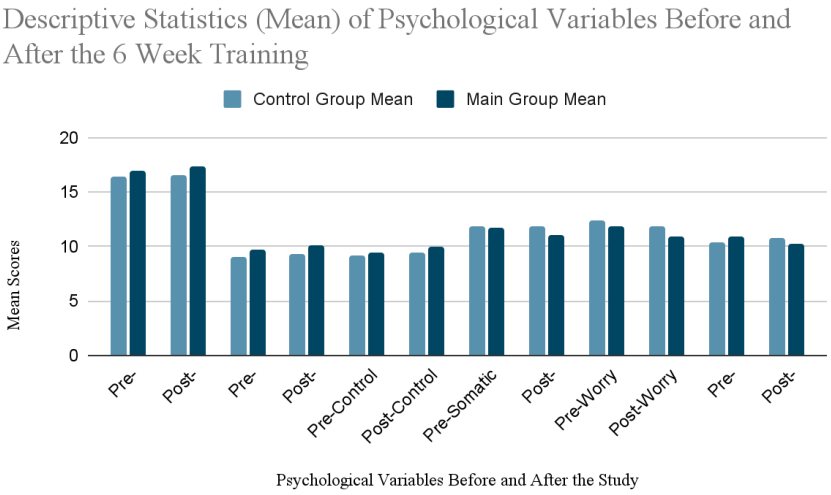

Figure 2. This figure shows the mean scores of each psychological variable considered in all of the 50 male table tennis players that participated in the study. The light-colored columns are the control group that did not receive the studies mindfulness practices and the dark colored columns are the main group that the study tested on.
Source: https://www.tmfv.com.ua/journal/article/view/1804/1553

With all these mindfulness techniques combined, it can be stated that they all significantly improved East Asian adult and adolescent table tennis athletes' performance in increased attention and the overall mechanics of playing table tennis. This can be compared to the general statistics of Olympic performance from each country based on the fact that mindfulness training is practiced widely by the countries in the previous studies mentioned, as shown in figure 3. China and South Korea, two major East Asian countries, have the most medals won in the table tennis Olympics proving that East Asians ultimately perform better than because of the mindfulness training techniques.

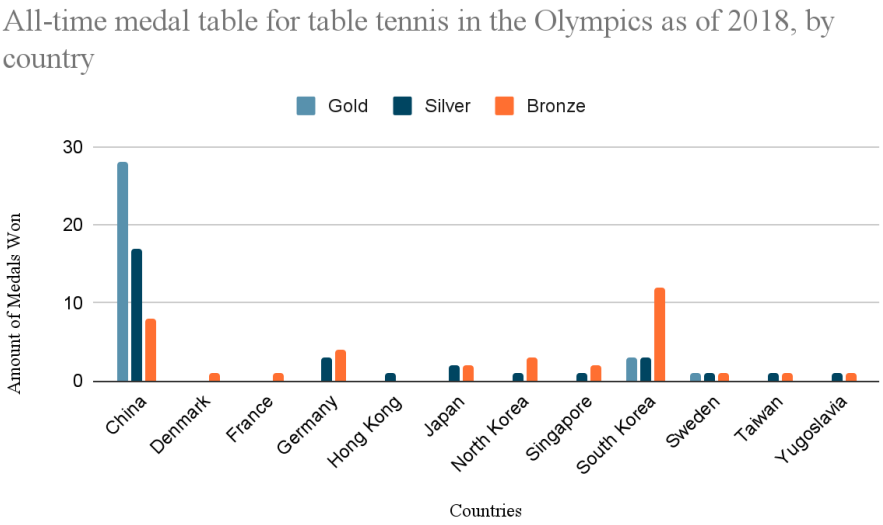

Figure 3. This figure provides the statistics of the amount of medals each country has won in the Olympics as of 2018 all time. Source: *Olympics - all-time table tennis medal tally by country*. (n.d.). Statista. Retrieved July 31, 2023, from https://www.statista.com/statistics/811121/medal-table-country-table-tennis-olympics/

Archery

Integrating mindfulness training into archery practice has proven to be a potent catalyst for enhancing athletes' performance. Traditional archery training involves repetitive drills to build muscle memory, alongside specific physical training (SPT) to develop skills like holding power and flexibility. However, the success of archery athletes transcends physical prowess alone. Mindfulness training assumes a crucial role in archery, given the intense focus required and the immense pressure faced in competitive settings. The infusion of mindfulness techniques into archery yields benefits including heightened focus, improved concentration, emotional regulation, enhanced body awareness, and an overarching elevation in archery performance. Noteworthy mental practices employed in archery encompass fear training, the Mindfulness-Based Peak Performance Program (MBPP), Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), and Acceptance and Commitment Therapy (ACT).

Fear training, as adopted by Korea, incorporates underwater fear exercises. This practice, in line with other East Asian mindfulness traditions, involves headline-grabbing activities like snake handling and bungee jumping. It aims to diminish fear and anxiety by engaging in nerve-wracking activities, ultimately reducing these emotions that commonly arise during competition. This training results in improved performance and competition outcomes. A case in point is the Korea Archery Association sending their 'B team' to Beijing for fear training, which contributed to their victory, with future Olympic gold medalists among them (Bow International, 2019).

The Mindfulness-Based Peak Performance Program (MBPP) constitutes another advantageous practice that bolsters professional archers' performance. This program entails eight 60-minute sessions, conducted twice a week

over four weeks, to elevate overall mindfulness levels and enhance archery performance. Sessions encompass various exercises like mindful breathing, seated meditation, and mindful walking. A study involving archery athletes from the National Taiwan University of Sport revealed a significant difference between pre-program and post-program shooting results ($p<0.0001$). This study underscores the efficacy of MBPP in enhancing archers' scores and reaction times (Wu, T.-Y., Nien, J.-T., Kuan, G., Wu, C.-H., Chang, Y.-C., Chen, H.-C., & Chang, Y.-K. 2021).

Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT) are additional mindfulness techniques that lead to considerable improvements in attention and performance. MBSR is an eight-week mindfulness training course designed for self-development, self-discovery, learning, and healing. MBCT aids individuals prone to depression in averting recurrence or relapse. Both techniques involve sessions of body scans, sitting meditation, walking meditation, and yoga, focusing participants on their self, mind, and body, inducing comfort and calmness. A study involving participants from the Chinese National Team of Shooting and Archery and the Hebei Province team employed breath detection and dot flash detection tasks. The results ($p = 0.001$) showcased the positive effects of MBSR and MBCT on archery athletes, evident in enhanced performance and interoceptive attention ability during competition (Li, P., Lu, Q., Wu, Q., Liu, X., & Wu, Y., 2021).

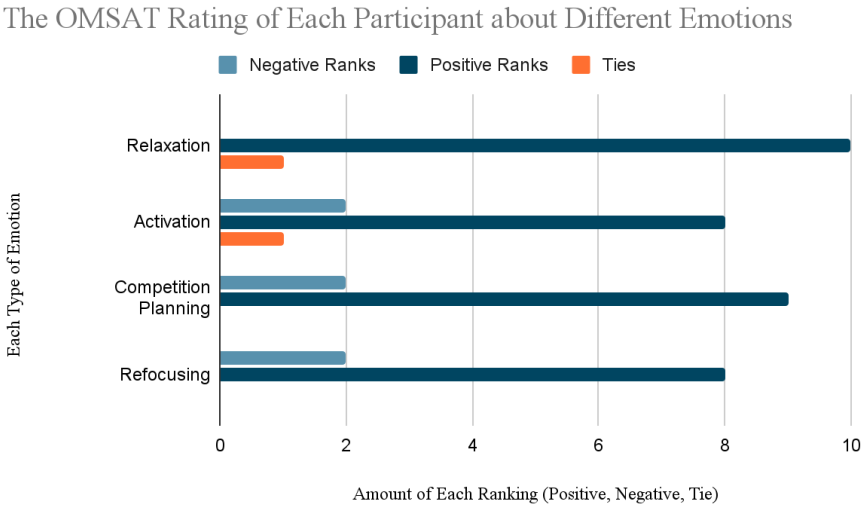

Figure 4. This figure shows the total of negative ranks, positive ranks, and ties collected from all of the participants in the study. The different types of emotions that were assessed were relaxation, activation, competition planning, and refocusing. Source: Effectiveness of a mindfulness-based skill development... - dergipark. (n.d.). https://dergipark.org.tr/en/download/article-file/1420294

Additionally, the efficacy of Mindfulness-Based Cognitive Therapy (MBCT) is further underscored by its application in combination with Acceptance and Commitment Therapy (ACT). This amalgam empowers archers to forge a new relationship with challenging thoughts, feelings, memories, sensations, and emotions. It imparts acceptance, self-observation, and full engagement with the present moment. A study on elite archers from the Turkish national team demonstrated that an eight-session mindfulness-based training program positively altered the mental skills and mindfulness levels of Western archers. Participant rankings on attributes like relaxation, activation, competition planning, and refocusing, measured through the OMSAT scale as shown in figure 4, shifted significantly towards positive evaluations after mindfulness training. This signifies that MBCT and ACT substantially enhance archers' thoughts in the "present moment" (TERZİOĞLU, Z. A., & ÇAKIR, S. G. 2020).

Furthermore, Olympic statistics for archery highlight East Asian countries like South Korea consistently outperforming Western nations in terms of medal count, shown in figure 5. This can be attributed to the impact of

mindfulness training, which significantly enhances their competitive performance, as demonstrated in events like the Olympics (Wikipedia Contributors, 2019).

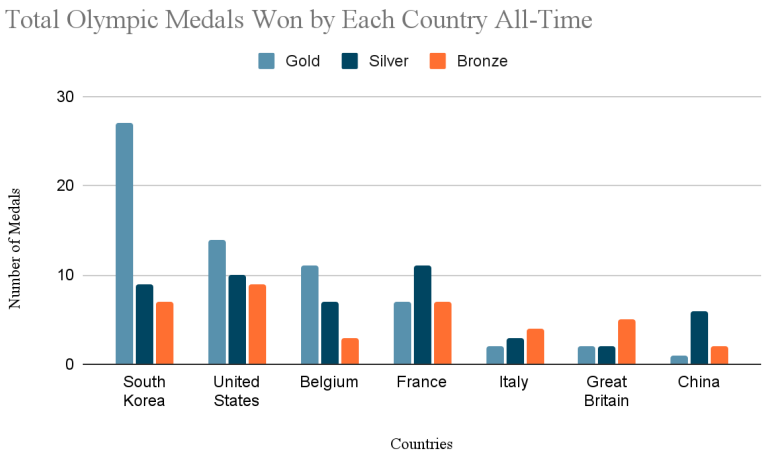

Figure 5. This graph shows the total Olympics medals won by each country all-time in archery. Each column in the graph represents the gold, silver, and bronze medals. Source: Wikipedia Contributors. (2019, November 13). *Archery at the Summer Olympics*. Wikipedia; Wikimedia Foundation. https://en.wikipedia.org/wiki/Archery_at_the_Summer_Olympics

Martial Arts

Extensive research has examined the impact of mindfulness training on the physical training regimen of martial artists. Martial arts necessitate a combination of both physical and mental training to achieve mastery. This results in athletes undergoing rigorous physical training to enhance attributes like strength, flexibility, balance, power, and speed. Simple exercises such as push-ups and muscle training workouts are commonly employed by professionals to attain these attributes. Additionally, rotational movements are crucial in martial arts due to the techniques' rotational components. Neglecting this aspect can render athletes inefficient, relying solely on their limbs instead of harnessing the full power of rotation (Rhodes, P. n.d.).

Yet, martial arts go beyond mere physical exercise; they demand mental stability and strength, given the mentally taxing nature of executing martial techniques. Alongside physical prowess, there exists a mental dimension in martial arts. Integrating mindfulness practices into martial training fosters mental resilience. This proves particularly useful in the demanding training and competitive environments, aiding in stress and anxiety reduction through consistent practice. Consequently, practitioners who wholeheartedly adopt mindfulness techniques in their journey gain enhanced self-awareness. Proficiency in emotional management cultivates equilibrium and control. The benefits of mindfulness extend further, as persistent practice sharpens focus and cognitive engagement. By merging mindfulness into their routine, martial artists establish a vital link between their mental and physical faculties, creating the essential mind-body connection pivotal for martial arts performance. This connection also aids in stress reduction. When athletes are attuned to their bodies and minds simultaneously, external worries become less distracting, leading to decreased stress and anxiety. Furthermore, the mind-body connection empowers athletes to identify and release bodily tension and stress, ultimately inducing relaxation.

To establish the mind-body connection in martial arts, several general techniques are employed by athletes to alleviate mental tension during competitions. These techniques encompass deep breathing exercises, the body scan method, visualization exercises, mindful movement, and meditation practices. Deep breathing exercises offer notable benefits by enhancing present-moment awareness. By concentrating solely on their breath during training, athletes anchor their attention to the present. Diaphragmatic breathing aids in calming the nervous system, augmenting muscle oxygen flow, and refining concentration and focus. The body scan technique enhances athletes' body awareness, directing attention to distinct body regions to recognize sensations, tensions, and relaxation. Incorporating this into warm-up or cool-down routines heightens body-mind connection, helping athletes comprehend their body's signals, optimize movements, and avert injuries. Visualization exercises are pivotal for muscle memory enhancement, as athletes create mental images of specific movements, techniques, or scenes. This mental rehearsal strengthens performance during training and competitions and bolsters concentration. Mindful movement, an integral aspect of martial arts, entails acute awareness of body positioning and spatial movements. This focus on sensations, alignment, and coordination during exercise enhances technique, flow, efficiency, and injury prevention. Meditation practices, encompassing forms like mindfulness and loving-kindness meditation, foster mental clarity, emotional regulation, and stress reduction. Martial artists harness these practices for a composed and focused mind, elevating their performance, decision-making, and resilience when facing challenges. These general mindfulness techniques equip martial artists to heighten their performance, flow, and concentration during competition (Martial Arts and Mindfulness: Cultivating Present-Moment Awareness, 2023).

The Chan-Based Dejian Mind-Body Intervention (DMBI) stands out as a proven mindfulness technique to enhance martial artists' performance. A study conducted in China and Hong Kong, involving martial artists from these regions, showcased the significance of DMBI in their performance. This intervention integrates four key components: Chan practice, dietary monitoring, mind-body exercises, and orifice cleansing. The Chan practice involves Buddhist philosophical insights, encouraging participants to listen to their bodies, fostering awareness of how desires and obsessions impact mental and physical well-being. Dietary monitoring tracks participants' daily eating habits and nutrition. Mind-body exercises encompass conventional mindfulness techniques, supplemented by Dantian breathing strategies and internal martial arts practices, which emphasize mindful attention to movements. Internal martial arts practices include the Baduanjin and Yijinjing forms from Shaolin martial arts, directing focus on body regions to sense the flow of Qi. The integration of these practices into East Asian athletes' routines can likely benefit other practitioners as well, optimizing their performance through heightened mindfulness (Kee, Y. 2019).

An illustration of the impact of mindfulness techniques is evident in South Korean taekwondo's success in the highly competitive Olympics. South Korea consistently outperforms other nations in this sport, attributed in part to mindfulness techniques enhancing athletes' performance during stressful competition (Wikipedia Contributors, 2019). Interestingly, martial arts training itself can be considered a beneficial mindfulness technique. A study involving practitioners and non-practitioners of martial arts in Tokyo, Japan, demonstrated that martial arts practitioners displayed higher levels of mindfulness and subjective well-being, alongside lower depression scores compared to non-practitioners. The practice of various martial arts styles, such as swordsmanship, karate, and bojutsu, contributed to these results. Scoring scales like FFMQ (Five Facet Mindfulness Questionnaire) and SWBS (Satisfaction with Life Scale) confirmed these findings, showcasing the positive impact of martial arts as a mindfulness technique (Miyata, H., Kobayashi, D., Sonoda, A., Motoike, H., & Akatsuka, 2020).

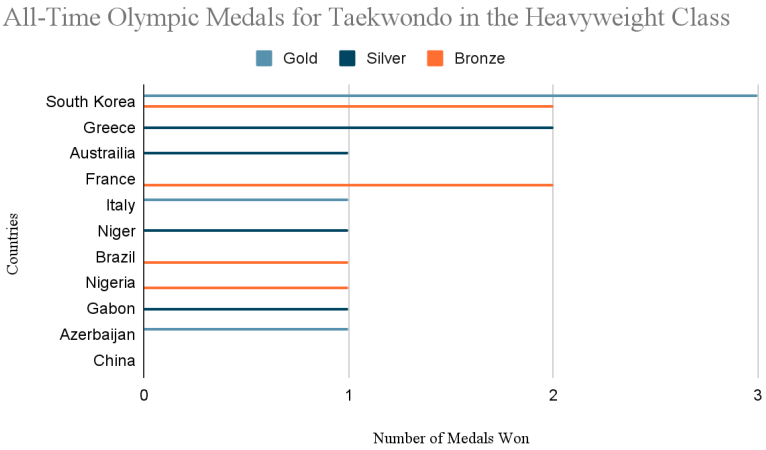

Figure 6. This figure presents the amount of medals that each country won in taekwondo all-time. Each bar in the graph represents the gold, silver, and bronze medals based on each color. Source: Wikipedia Contributors. (2019, September 13). *List of Olympic medalists in taekwondo*. Wikipedia; Wikimedia Foundation. https://en.wikipedia.org/wiki/List_of_Olympic_medalists_in_taekwondo

Conclusion

The collective findings from studies on mindfulness training techniques in table tennis, archery, and martial arts distinctly underscore its potency in enhancing performance among East Asian athletes, propelling them to compete and succeed at a higher level. However, the advantages of mindfulness training in East Asian sports differ from those observed in Western contexts. Rooted in East Asian philosophical traditions, mindfulness training deviates from conventional Western sports psychology both in its philosophical underpinnings and meditation methods. The techniques used in these studies, such as Mindfulness-Based Cognitive Therapy (MBCT) and Chan-Based Dejian Mind-Body Intervention (DMBI), draw from Taoism, Buddhism, and Shaolin culture, reflecting their distinctive Eastern origins. The philosophy behind East Asian mindfulness practices significantly sets them apart from conventional Western approaches. Mindfulness practices grounded in traditions like Zen Buddhism, Taoism, and Confucianism offer numerous potential mental and emotional advantages for athletes engaging in East Asian-dominant sports. These benefits, evidenced in studies of these athletes, encompass improved focus, reduced anxiety and stress, heightened self-awareness, greater body awareness, and enhanced emotional regulation.

Beyond sports, mindfulness practices hold the potential to bring about positive effects in people's everyday lives. Given the prevalence of mental health challenges worldwide, including depression, anxiety, eating disorders, and addiction, mindfulness techniques offer a promising avenue for managing these issues. These practices equip individuals with tools to cope with stress, address mental health concerns, and alleviate anxiety and depression. Individuals who have embraced mindfulness have reported enhanced relaxation, increased enthusiasm for life, and improved self-esteem (News in Health, 2017). This bears relevance to sports, as anxiety often emerges as a significant negative factor during training or competition, where mindfulness practices can provide similar relief.

In East Asian-dominant sports, mindfulness training can significantly elevate athletes' performance and overall well-being. The extent of this impact may vary based on athletes' dedication to the practice, the specific mindfulness techniques employed, and the consistency of practice. Notably, athletes who committed to the Mindfulness for Performance Programme displayed substantial improvements within the six-week program, as evident from their competition results. Similarly, athletes from various sports exhibited enhanced performance when fully engaged in the study.

It's important to recognize that mindfulness training isn't a quick fix; its effects may not manifest immediately. Therefore, consistent practice over time remains essential for athletes in East Asian sports to experience performance enhancements. Athletes perceive and embrace the integration of East Asian mindfulness techniques into their training routines, often with the guidance of mindfulness instructors or coaches. Nevertheless, it's crucial to acknowledge that mindfulness training might not be the sole influencing factor in these athletes' performance. Cultural elements could play a role in shaping the effectiveness of mindfulness training in East Asian dominant sports. These factors may influence how mindfulness is perceived, practiced, and integrated into sports. Athletes who share stronger connections with East Asian cultures and beliefs might find the practices more meaningful and experience heightened performance due to their alignment with these values. Additionally, some East Asian countries introduce mindfulness to young children in sports education, fostering a more natural integration of these practices into their routines. The coaching factor also comes into play, where coaches who incorporate mindfulness techniques into training can foster athlete commitment, yielding greater benefits from the practices. The involvement of mindfulness coaches in the utilization of these practices tends to lead to marked performance improvements in various sports like table tennis, archery, and martial arts.

References

ABSTRACT THE EFFECT OF A MINDFUL MEDITATION INTERVENTION ON SELF-CONFIDENCE AND READINESS IN BASEBALL PLAYERS. (n.d.). https://repository.library.fresnostate.edu/bitstream/handle/10211.3/203034/Costalupes_csu_6050N_10563.pdf?sequence=1

An Introduction to Mindfulness. (n.d.). Physiopedia. https://www.physiopedia.com/An_Introduction_to_Mindfulness#:~:text=Mindfulness%20originated%20from%20ancient%20eastern

Athens 2004 baseball men results - olympic baseball. (n.d.-a). https://olympics.com/en/olympic-games/athens-2004/results/baseball/baseball-men

Bhandari, T. (2023, April 19). *Mind-body connection is built into brain, study suggests*. Washington University School of Medicine in St. Louis. https://medicine.wustl.edu/news/mind-body-connection-is-built-into-brain-study-suggests/#:~:text=just%20an%20abstraction.-

Burson, C., & Lebeau, J.-C. (2022). *THE IMPACT OF MINDFULNESS INTERVENTIONS ON ELITE ATHLETES' LEVELS OF RECOVERY: A PILOT STUDY*. https://cardinalscholar.bsu.edu/server/api/core/bitstreams/56e0a0d6-ddcf-4599-b38c-6cfe06dbde10/content

Bricker, J. B., & Tollison, S. J. (2011). Comparison of Motivational Interviewing with Acceptance and Commitment Therapy: A conceptual and clinical review. *Behavioural and Cognitive Psychotherapy*, *39*(5), 541–559. https://doi.org/10.1017/S1352465810000901

Chen, J.-H., Tsai, P.-H., Lin, Y.-C., Chen, C.-K., & Chen, C.-Y. (2018). Mindfulness training enhances flow state and mental health among baseball players in Taiwan. *Psychology Research and Behavior Management*, *Volume 12*, 15–21. https://doi.org/10.2147/prbm.s188734

Chan, A. S., Cheung, W. K., Yeung, M. K., Woo, J., Kwok, T., Shum, D. H. K., Yu, R., & Cheung, M. (2017). A Chinese Chan-based Mind-Body Intervention Improves Memory of Older Adults. *Frontiers in Aging Neuroscience*, *9*. https://doi.org/10.3389/fnagi.2017.00190

Chan, A. S., Sze, S. L., Cheung, M., Lam, J. M., & Shi, D. (2009). Dejian Mind-body intervention improves the functioning of a patient with chronic epilepsy: a case report. *Cases Journal*, *2*(1). https://doi.org/10.1186/1757-1626-2-9080

Developing Strength and Endurance with Specific Physical Training. (n.d.). Www.usarchery.org. Retrieved August 7, 2023, from https://www.usarchery.org/article/Developing-Strength-and-Endurance-with-Specific-Physical-Training#:~:text=Specific%20Physical%20Training%20(SPT)%20is

Dienstmann\, G. (2023, July 31). *The full power of Taoist meditation and how to do it*. Guided Mindfulness Meditation Course & Lessons Online. https://www.thewayofmeditation.com.au/the-full-power-of-taoist-meditation-and-how-to-do-it

Effectiveness of a mindfulness-based skill development ... - dergipark. (n.d.). https://dergipark.org.tr/en/download/article-file/1420294

EmRatThich, C. (2023, January 7). *How do professional table tennis players practice their training session*. PingSunday. https://pingsunday.com/how-do-professional-table-tennis-players-practice-their-training-session/#Physical_conditioning

Filipe Bastos (MSc Psychology & Founder) MindOwl Founder, (2022, March 11). *Mindfulness in sport: Practical meditation for athletes*. MindOwl. https://mindowl.org/mindfulness-in-sport/#google_vignette

Kee, Y. (2019). Looking East for Mindfulness: A Glimpse of Practices and Research on Shaolin Martial Arts and Related Practices to Advance Sport Psychology. *Psych*, *1*(1), 76–91. https://doi.org/10.3390/psych1010006

Li, P., Lu, Q., Wu, Q., Liu, X., & Wu, Y. (2021, May 14). *What makes an elite shooter and Archer? the critical role of interoceptive attention*. Frontiers. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.666568/full

Liu, H., Liu, N., Chong, S. T., Boon Yau, E. K., & Ahmad Badayai, A. R. (2023). Effects of acceptance and commitment therapy on cognitive function: A systematic review. *Heliyon*, *9*(3), e14057. https://doi.org/10.1016/j.heliyon.2023.e14057

Li, H., Yan, W., Wang, Q., Liu, L., Lin, X., Zhu, X., Su, S., Sun, W., Sui, M., Bao, Y., Lu, L., Deng, J., & Sun, X. (2022). Mindfulness-Based Cognitive Therapy Regulates Brain Connectivity in Patients With Late-Life Depression. *Frontiers in Psychiatry*, *13*. https://doi.org/10.3389/fpsyt.2022.841461

Martial Arts and Mindfulness: Cultivating Present-Moment Awareness. (2023, May 10). Calmer. https://www.thisiscalmer.com/blog/martial-arts-and-mindfulness

Mindfulness meditation intervention with male collegiate soccer players: Effect on stress and various aspects of life. The Sport Journal. (2018a, April 23). https://thesportjournal.org/article/mindfulness-meditation-intervention-with-male-collegiate-soccer-players-effect-on-stress-and-various-aspects-of-life/#post/0

Miyata, H., Kobayashi, D., Sonoda, A., Motoike, H., & Akatsuka, S. (2020). Mindfulness and psychological health in practitioners of Japanese martial arts: a cross-sectional study. *BMC Sports Science, Medicine and Rehabilitation*, *12*. https://doi.org/10.1186/s13102-020-00225-5

Murguia, E., & Díaz, K. (2015). Articles Section Philosophical Foundations of Cognitive Behavioral Therapy 37. *Journal of Evidence-Based Psychotherapies*, *15*(1), 37–50. https://philarchive.org/archive/DIATPF

News in Health. (2017, June 28). *Mindfulness Matters*. NIH News in Health. https://newsinhealth.nih.gov/2012/01/mindfulness-matters#:~:text=Studies%20suggest%20that%20mindfulness%20practices

Olympics - all-time table tennis medal tally by country. (n.d.). Statista. Retrieved July 31, 2023, from https://www.statista.com/statistics/811121/medal-table-country-table-tennis-olympics/

Parato, S. (2019, August 29). *Meditation Benefits 2019 Study (Explained by Experts)*. Feelin' Good, Feelin' Great | Raise Your Vibration. https://www.feelingoodfeelingreat.com/2019/08/29/meditation-benefits-study/

(PDF) Young Professional Baseball Players' interactions with the ideas ... (n.d.-b). https://www.researchgate.net/publication/280012104_Young_professional_baseball_players'_interactions_with_the_ideas_and_practices_of_mindfulness_A_narrative_study

Rhodes, P. (n.d.). *Off the mat training for Martial Arts*. NASM. https://blog.nasm.org/mma/off-the-mat-training-for-martial-arts

Selva, J. (2017, March 13). *History of Mindfulness: From East to West and Religion to Science|History of Mindfulness: From East to West and Religion to Science*. PositivePsychology.com. https://positivepsychology.com/history-of-mindfulness/#origins-mindfulness

Tebourski, K., Bernier, M., Ben Salha, M., Souissi, N., & Fournier, J. F. (2022). Effects of Mindfulness for Performance Programme on Actual Performance in Ecological Sport Context: Two Studies in Basketball and Table Tennis. *International Journal of Environmental Research and Public Health*, *19*(19), 12950. https://doi.org/10.3390/ijerph191912950

The Science of Mindfulness. (2023, March 13). News-Medical.net. https://www.news-medical.net/health/The-Science-of-Mindfulness.aspx#:~:text=A%20growing%20body%20of%20evidence

The Secrets of Korean Archery. (2019, May 5). Bow International. https://www.bow-international.com/features/korean-archery-secrets/

Uses & Benefits of Acceptance and Commitment Therapy. (2019, November 14). Life & Mind Psychology. https://lifeandmind.com.au/uses-and-benefits-of-acceptance-and-commitment-therapy/#:~:text=Benefits%20of%20ACT

View of Effect of VMBR Training on Psychological Dimensions of Anxiety and Mental Toughness of Table Tennis Players. (n.d.). Www.tmfv.com.ua. Retrieved July 31, 2023, from https://www.tmfv.com.ua/journal/article/view/1804/1553

Vveinhardt, J., & Kaspare, M. (2022). The Relationship between Mindfulness Practices and the Psychological State and Performance of Kyokushin Karate Athletes. *International Journal of Environmental Research and Public Health*, *19*(7), 4001. https://doi.org/10.3390/ijerph19074001

Widhi Harita, A. N., Suryanto, S., & Ardi, R. (2022). Effect of Mindfulness Sport Performance Enhancement (MSPE) to Reduce competitive state anxiety on Karate Athletes. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *8*(2), 169–188. https://doi.org/10.29407/js_unpgri.v8i2.17807

Wikipedia Contributors. (2019, November 13). *Archery at the Summer Olympics*. Wikipedia; Wikimedia Foundation. https://en.wikipedia.org/wiki/Archery_at_the_Summer_Olympics

Wikipedia Contributors. (2019, September 13). *List of Olympic medalists in taekwondo*. Wikipedia; Wikimedia Foundation. https://en.wikipedia.org/wiki/List_of_Olympic_medalists_in_taekwondo

Wong, R. S. K., How, P. N., & Cheong, J. P. G. (2022, June 23). *The effectiveness of a mindfulness training program on selected psychological indices and sports performance of sub-elite squash athletes*. Frontiers. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.906729/full

Wu, T.-Y., Nien, J.-T., Kuan, G., Wu, C.-H., Chang, Y.-C., Chen, H.-C., & Chang, Y.-K. (2021, May 31). *The effects of mindfulness-based intervention on shooting performance and cognitive functions in Archers*. Frontiers. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.661961/full

Yu, R., Jean, W., Agnes, C., & Sophia, S. (2014). A Chinese Chan-based mind–body intervention improves psychological well-being and physical health of community-dwelling elderly: a pilot study. *Clinical Interventions in Aging*, 727. https://doi.org/10.2147/cia.s59985

Zhang, C.-Q., Si, G., Chung, P.-K., & Gucciardi, D. F. (2016). Mindfulness and Burnout in Elite Junior Athletes: The Mediating Role of Experiential Avoidance. *Journal of Applied Sport Psychology*, *28*(4), 437–451. https://doi.org/10.1080/10413200.2016.1162223