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Assessing the Role of Mindfulness Program in Improving Grit Among Bataan National High School-Senior High School Boys Volleyball Players.

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ABSTRACT

During intense games, non-stop rallies, and feelings of tiredness, this is the time when athletes have the most difficulty maintaining their focus and perseverance. This study aims to assess if the mindfulness program can impact the grit level of the male volleyball players of Bataan National High School-Senior High School (BNHS-SHS). The researchers employ a quasi-experimental approach, having a non-random selection of participants. On the other hand, repeated measures/within-subject research design was utilized for assessment as the study has only one group: the experimental group (n=15), with no control group. The Domain-Specific Grit Scale for College Athletic Students (DGSCAS) was used in the pre-test and post-test, consisting of 10 negative statement questions and a 5-point Likert Scale. The findings revealed that there is an improvement in the 2 dimensions of the scale where both have decreased mean scores after the intervention[Bataan Peninsula State University, Philippines] program. On the other hand, the first dimension, which is 'Consistency of Interest', shows a significant difference in its pre-test and post-test (p-value = 0.042), while the 'Perseverance of Effort' p-value of 0.078 is greater than the significance level of 0.05, indicating that it has no significant difference. Meanwhile, the overall score emphasizes that the program helped the participants improve their grit level, with a p-value of 0.028, indicating that the program significantly contributed to the athletes. These results highlight the benefits of the mindfulness program as a tool for increasing players' grit but suggest more approaches in 'Perseverance of Effort.

INTRODUCTION

In the fast-paced and competitive sports environment, grit is an important psychological characteristic influencing athletic performance and achievement. Athletes demonstrate grit by continuously working hard despite difficulties or failures. They also have qualities like endurance, urgency and intensity, self-confidence, need for encouragement, and self-criticality —all exhibiting their grit when playing (Beck & Debeliso, 2020). This persistence is essential for overcoming obstacles in training and competition (Tedesqui & Young, 2017). In the study by Tiwari and Verma (2023), they emphasized that grit goes beyond putting effort, hence it includes the ability to maintain determination during challenges and setbacks. In team sports, particularly volleyball, grit in enduring physical demands is not the only important thing to consider; it is also vital in overcoming psychological hurdles, like burnout, lack of motivation, and performance anxiety. Mental health care is as important as physical care, and it should be seen as an important factor in sports performance. It is where athletes must be supported when seeking care for their mental health struggles (Mack *et al.*, 2023). Moreover, in the study of Stockton *et al.* (2019), it has been observed that athletes often experience fluctuations in their level of grit when there is an incoming competition, when they are recovering from injuries, or when they are under intense training sessions, which are all high-pressure scenarios. Also, the research of Barczak-Scarboro *et al.* (2022) found that perceived stress and high training load were negatively associated with grit and resilience, which indicates that multiple stressors must be taken into account to maintain athletes' grit and resilience. Anderson *et al.* (2021) on the other hand, stated that mindfulness meditation significantly benefits several physical and mental health outcomes. It enhances athletic performance, improves athletes' mental health, reduces injury risk, and helps them recover from injury or distress.

Various mindfulness approaches were applied in sports to mediate the psychological hurdles of the athletes that happen to intertwine with their physiological issues. Mindfulness has an important role in sports because it offers ways to navigate the mental and physical challenges in competitive sports (Li *et al.*, 2024). Its importance lies in its interventions that enhance athletes' awareness of their bodies, thoughts, and emotions, which leads to a more balanced focus in training and competition. Interventions and mindfulness programs were adapted to multiple phases of the sports season as it ensures that the athletes receive proper and appropriate support during preseason and peak training periods (Augustus *et al.*, 2022). According to the study of Minkler *et al.* (2022), mindfulness practices are relevant and helpful in enhancing the performance of the players, in addition, it also revealed that there is a huge need for tailored approaches that must meet the needs of an individual, which will help them be ready for upcoming games. In sports, mindfulness is reasonable to be considered as a way to practice strategies for

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athletes as a regular complementary mental skills training approach. However, more high-quality, controlled trials on mindfulness practice and performance need improvements in diverse sport settings (Bühlmayer *et al.*, 2017). Developing proper mindfulness interventions in specific areas in sport is highly recommended to make the programs more suitable for the players.

Mindfulness is a process of intentionally paying full attention to the present moment (Minkler, 2023). In addition, mindfulness activities are a great coping mechanism that increases an athlete's well-being, which is crucial in sustaining grit. The study of Haraldsdottir *et al.* (2024) determined that mindfulness training is linked to great improvements in the athletes' mood, energy levels, as well as their muscle readiness and their perseverance. It also helps in decreasing and managing the anxiety of the players and it is related to improved mental health outcomes of the athletes' (Myall *et al.*, 2022). Based on Lebeau *et al.* (2024), mental resilience is enhanced through mindfulness interventions and leads to better physical performance and lesser chances of having injuries and feelings of nervousness before and during the game, contributing to improved athletic participation. While mental toughness and perseverance are crucial for success, there is a gap in understanding how athletes can maintain a steady level of grit, especially during emotional strain or when external pressures increase (Kumbar & Patil, 2024). The problem lies in how athletes can effectively maintain or even enhance their grit, especially during challenging times. Moreover, acknowledging how the stimuli of team sports can influence both physical performance and cognitive capabilities is important since, in recent years, the relationship between cognitive psychology and sports science has garnered significant attention, specifically in understanding how the dynamics of team sports impact cognitive performance. The study by Smith *et al.* (2018) explores this relationship, revealing that the various stimuli like response inhibition, elevated exertion of effort, sustained vigilance, impaired executive function, decreased accuracy, attention, and action inherent in team sports can impose cognitive demands that affect crucial mental processes.

Additionally, Boone *et al.* (2017) emphasized that high load and worse recovery during competition are found in volleyball players, leading to the need to monitor mental and physical fatigue and recovery throughout the game. Andrade *et al.* (2016) revealed that mental requirements also increase with the athlete's need to be physically ready. Consequently, to promote sufficient recovery for the athletes, Poppendieck *et al.* (2016) suggested that greater strategies must be implemented. To consolidate both mental and emotional needs, mindfulness-based mental training (MBMT)—which encompasses a variety of techniques and strategies focused on paying attention to the player's bodily sensations, emotional interactions, mental images, self-talk, and perceptual experiences—must be implemented (Bühlmayer *et al.*, 2017). Mindfulness training can help reduce the tendency to overthink by directing attention to the thoughts themselves rather than fixating on the content of those thoughts.

Previous studies and implementation focused on other team sports and garnered data mostly from Western countries, creating a knowledge and data gap about how such implementations can be effective in local applications—specifically the Senior High School Men's Volleyball team of BNHS. Since volleyball is a team sport, it requires both individual and collective effort to achieve a goal, and these often put players under considerable mental stress. To perform well, maintaining a high level of grit is very important. Through a mindfulness program, mental struggles are aimed to be overcome, and it also aims to improve the athletes' grit.

Thus, this study assesses whether a five-session structured mindfulness program during the BNHS men's volleyball players' training can develop greater perseverance and persistence by investigating the relationship between mindfulness programs and grit development. More specifically, it aims to address the following questions: What is the mindfulness program's role in improving the players' grit? What is the extent of the mindfulness program's effect on volleyball players' grit?

MATERIALS AND METHODS

Research Design

The quasi-experimental design is utilized due to the fact that the participants in this study are not randomly assigned to a control or experimental group (Thomas, 2020). Since the study has no control group, the researchers employ a within-subject/repeated measure design consisting of only one group—an experimental group that is tested with the pre-test and post-test of the intervention and compares related measures from the same participants under the same conditions (Bhandari, 2021).

Research Participants

Fifteen (15) Male Volleyball Athletes from Bataan National High School – Senior High School were selected to participate in the study. To participate in the study, the participants must meet the following criteria: They must be 13 to 18 years of age, be actively involved in the BNHS men's volleyball team, and regularly attend practice sessions. The participants who have completed a formal mindfulness training program within the past year and did not commit to attend at least four (4) sessions of the mindfulness program are excluded from the participation. This study employed a non-probability, convenience sampling method influenced by the researchers' judgment and practicality.

Mindful Volleyball: A Modified Mindfulness Program For BNHS-SHS Volleyball Boys Players

The intervention program, adapted from the work of Walker (2019), has a total of 10 sessions for a duration of 1 month. The program sessions consist of: A 3-step Approach to Training; Taking a Timeout; Body Awareness; Mindful Stretching; Get Moving with the

Warm-Up; See the Court; Stepping onto the Court; Teamwork; Increasing the Tempo; and Maintaining Training. The researchers modified the manual by using only 5 sessions according to the needs of the participants and focusing on enhancing their grit.

1. The first session begins with "A 3-step Approach to Training", discussing the importance of breathing exercises. Then, the practical use of the breath script, deep breath script, and tasking the participants to do the 'Just three breaths' in their homes.

2. The second session encompasses "Body Awareness", emphasizing the importance of body scanning and practicing the progressive muscle relaxation script. As for the participants' home exercise, the facilitators instructed them to do the 'Using your Non-dominant Hand' exercise.

3. The third session, "Get Moving with the Warm Up," guides the participants on the applications of the exercises while moving by doing walking meditations and doing the home exercise 'Bottoms of the Feet.

4. The fourth session, "See the Court," explores the power of imagery by challenging the participants to perform imagery practices, strengthening their imagination through lake meditation and leaving them with the home exercise "Impatience."

5. The last session, "Maintaining Training," covers the first four sessions, redoing all the exercises and practices to ensure the participants' mastery.

Research Instrument

The Domain-specific Grit Scale for College Athletic Students (DGSCAS) developed by Duckworth, Peterson, Matthews, and Kelly (2007) is used as the pre-test and post-test conducted by the researchers through Google Forms. This scale has two (2) dimensions: the "Consistency of Interest" and "Perseverance of Effort". The scale consists of ten (10) questions; each five (5) falls under the two (2) dimensions, all in negative statements. The items were rated on a 5-point Likert scale (1= Not like me at all, to 5= Very much like me).

Data Gathering Procedure

The informed consent and parental consent form was administered to the participants before the data collection and sessions took place, and it must be submitted and signed as a prerequisite to their participation. The data-gathering procedure was made possible by the collaboration of the BNHS-SHS Department and the team coach/trainer. The program begins with the orientation before proceeding to each session. Data gathering took 3 consecutive weeks, 5 sessions in November 2024, and a time allotment of at least 60 to 90 minutes in a controlled environment.

The athletes are given a pre-test to measure their grit level using the Domain-specific Grit Scale for College Athletic Students (DGSCAS). In all of the sessions conducted, all of the participants completed at least 4 sessions. For the final part, the researchers gathered the pre-test and post-test to analyze the scores of the participants to assess if there was an improvement in their grit.

Ethical Considerations

To ensure the ethical standards that must be regarded, the study faithfully upholds the Data Privacy Act of 2012 (Philippine Republic Act 10173) and the 2022 Code of Ethics of Philippine Psychologists and Psychometricians developed by the 521 Psychological Association of the Philippines.

Data Analysis

The accumulated data are analyzed using the Statistical Package for Social Sciences (SPSS). In addition, the level of significance is 0.05-based. The mean scores and p-values of the two dimensions, "Consistency of Interest" and "Perseverance of Effort," are noted essentially for the tabulation of the non-parametric statistics, the Wilcoxon Signed-Rank Test. The overall athletes' mean scores were also calculated, having an effect size of -0.77.

RESULTS AND DISCUSSIONS

Experimental Group

Table 1: Mean scores before and after the mindfulness program in the volleyball team

DGSCAS	Before Mindfulness Program	After Mindfulness Program	Difference		Interpretation
	Mean	Mean	Mean	p-value	
Consistency of Interest	2.21	1.60	0.61	0.042	Significant
Perseverance of Effort	2.62	2.08	0.54	0.078	Not Significant
Overall Score	4.83	3.68	1.15	0.028	Significant

Table 1 provides a detailed summary of the mean scores calculated for the DGSCAS among members of the volleyball team, comparing the results before and after the mindfulness program intervention. The data presented in the table offers insight into the changes in two specific dimensions: "Consistency of Interest" and "Perseverance of Effort," which are key factors being assessed through the intervention. Based on the data above, the mean score of "Consistency of Interest" from the pre-test is 2.21, which declined to 1.60 in the post-test after the intervention, with a mean difference of 0.61, indicates a notable change in this domain with which players manage to maintained their interest or commitment to their goals while undergoing throughout the intervention. The p-value for this change was found to be 0.042, suggesting a statistical significance as it is below the common threshold of 0.5, representing the observed decrease in scores is unlikely to have occurred by chance.

On the other hand, a different trend was seen in the "Perseverance of Effort", gaining a mean score of 2.62 in the pre-test, while in the post-test, it decreased to 2.08, having a mean difference of 0.54. However, this domain p-value of 0.078 surpasses the conventional significance, which is 0.05. This reduction in the mean scores can be interpreted as the intervention may have had a substantial impact on the players' consistency of interest, likely due to improved focus and presence during training sessions or competitions, nevertheless, it is worth to note that even if the change is not statistically significant, it still indicates the potential effect of the mindfulness program. Lastly, the overall mean score before the intervention decreased from 4.83 to 3.68 after the program, with a total mean difference of 1.15, suggesting that the players experienced an overall shift in their goal-setting and focus strategies. The p-value is 0.028, which is below the significant mark of 0.05, indicating that the reduction in the overall mean score is statistically significant.

Table 2: Effect size of the athlete's overall mean scores before and after the intervention

	Wilcoxon-Signed Rank test			**Pre-test**	**Post-test**
	p-value	**Z value**	**Effect Size**	**Mean**	**Mean**
Overall	0.003	-2.977	-0.77	24.2	18.4

Table 2 shows the statistical results of the athlete's overall mean from before and after the program scores, providing a comprehensive statistical analysis using the Wilcoxon-Signed Rank test. According to the data, the overall mean score prior to the intervention, as indicated by the pre-test data, was 24.2. Following the mindfulness program, this score decreased to 18.4 in the post-test. This reduction of 5.8 points in the mean score is substantial and suggests a notable shift in the athletes' responses or behaviors as a result of the intervention. The p-value associated with this change is 0.003, which is well below the commonly accepted significance threshold of 0.05. This p-value indicates that the observed change in scores—from the pre-test to the post-test—is statistically significant, meaning that it is highly unlikely to have occurred by chance. Further supporting the significance of the findings is the Z-value, which was calculated as -2.977, indicates a strong negative shift in the scores, reinforcing that the post-test scores were significantly lower than those from the pre-test. The negative value also suggests that the decrease in scores was consistent across the participants, pointing toward a collective response to the intervention. Moreover, the statistical analysis includes the calculation of the effect size, which was found to be -0.77, which is considered to be large, indicating that the intervention had a substantial effect on the athletes. This outcome highlights the potential benefits of mindfulness training in athletic settings, particularly in fostering changes that can improve focus, reduce stress, or alter motivational dynamics among athletes.

Discussion

The study's goal is to determine the effect of the program on the grit level of volleyball players. The findings revealed that the program significantly influenced the participants, especially in enhancing consistency of interest and overall grit. These results suggest that mindfulness can be an effective tool for promoting focus and emotional regulation, both of which are critical traits for athletes in team sports. Recent studies highlight that mindfulness-based practices have become a prominent method for enhancing athletes' performance (Terzioğlu *et al.*, 2020). Mindfulness has been posited to affect sports performance by bolstering one's psychological skills. In Birrer *et al.*'s (2012) review, they proposed 9 pathways in which mindfulness facets influence a variety of psychological skills, including bare attention, attitude, self-regulation, and less rumination, among others.

The mean scores of the pre-test and post-test indicate a decrease in "Consistency of Interest" after the intervention. This dimension has to do with the ability of the individual to keep focusing on his goals over time. Previous research indicates that mindfulness facilitates self-evaluation and, thus, the adjustment of individual goals by athletes (Gardner & Moore, 2012). However, this decrease in scores may also indicate that, through mindfulness training, increased awareness of distractors or competing interests is brought to light, affecting the players' performance. Mindfulness is associated with various psychological constructs, including grit, which affects the athletes' resilience and focus (Mahalingam, 2022).

Moreover, the "Perseverance of Effort" also showed a decrease in mean scores after the mindfulness program, indicating a slight enhancement in the participants' determination to persist despite challenges. However, this change was not enough to confirm a significant difference between the pre-test and post-test. This suggests that perseverance may require more time or additional approaches as various external and internal factors beyond mindfulness often influence persistence. Grit is the ability to persevere even in times of challenges and sustain interest (Eskreis-Winkler *et al.*, 2014), and through mindfulness, it can empower people to interpret stressful situations as benign and meaningful (Garland *et al.*, 2011).

The overall scores showed a noticeable improvement after the mindfulness program. This indicates that the program effectively helped participants improve their focus and consistency in their goals, thus rejecting the null hypothesis. Most studies concur on the two defining components of mindfulness: paying attention to the

present moment (bare attention), awareness of the present moment experience, and acceptance of the ever-changing moment-to-moment experiences (Bishop *et al.*, 2004; Quaglia *et al.*, 2015). Mindfulness interventions are also increasingly being integrated into institutional settings in clinical treatment (Dimidjian & Segal, 2015), the workplace (Good *et al.* 2016), schools (Sibinga *et al.* 2016), the military (Johnson *et al.* 2014), and prisons (Samuelson *et al.* 2007), to name only a few.

The athlete's overall mean score demonstrates that the observed performance changes in the athlete are statistically significant, having a decline in the pre-test and post-test. Moreover, the negative effect size presents a large effect in lowering the scores of the athletes in the negative statement questions, indicating a substantial and meaningful impact of the intervention on the athlete's performance. These results align with recent findings in various fields. A systematic review by Mudiyanselage *et al.* (2024) examined the effectiveness of mental health interventions involving non-specialists and digital technology in low and middle-income countries, finding significant improvements with standardized effect sizes ranging from 0.2 to 0.8. Similarly, a study by San Román-Niaves *et al.* (2024) focused on compassion-based interventions at work, highlighting the importance of effect sizes in evaluating intervention impact.

One of the limitations of the study is that the program was conducted only on a volleyball team, which means the results may not apply to other groups or sports. The team was also a boy's team, consisting only of males, having uncertain outcomes for all genders. The duration of the program might also have been too short to bring out significant improvements in all areas and for the researchers to assess long-term effects on the athletes. The absence of a control group can be also noted as well as the implementation of the program in a single team. These limitations can be addressed by applying the program to various sports with different genders, implementing the program with a longer duration, having a control group, and employing a mixed-method approach to have more diverse data for its applicability.

CONCLUSION

The study's findings provide valuable insights into the impact of systematic mindfulness training on the grit levels of male volleyball players. The program significantly improved consistent interest and overall grit scores, suggesting that mindfulness training enhances emotional control and focus. However, its effect on the perseverance of effort was not statistically significant, indicating that while mindfulness supports attention maintenance and stress reduction, it may not directly influence sustained effort. These results highlight the potential of mindfulness programs as a tool for improving psychological attributes critical to athletic performance. Despite these promising findings, the study's limitations, such as the absence of a control group and potential external influences, call for further research. Future studies with larger sample sizes, diverse demographics, and longitudinal designs are needed to explore the long-term effects of mindfulness interventions. By providing a better understanding of how mindfulness training might improve particular facets of grit, this study adds to the body of knowledge and opens the door for more specialized and successful psychological therapies in athletic contexts.

REFERENCES

Anderson, S. A., Haraldsdottir, K., & Watson, D. (2021). Mindfulness in Athletes. *Current Sports Medicine Reports, 20*(12), 655–660. https://doi.org/10.1249/jsr.0000000000000919

Andrade, A., Bevilacqua, G. G., Coimbra, D. R., Pereira, F. S., & Brandt, R. (2016). Sleep Quality, Mood and Performance: A Study of Elite Brazilian Volleyball Athletes. *Journal of Sports Science & Medicine, 15*(4), 601–605. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5131213/

Augustus, A. N., Zizzi, S., Minkler, T., & Lindauer, C. (2022). Mindfulness for the Moment: Adapting Interventions for the Period of the Sport Season. *Journal of Sport Psychology in Action, 14*(1), 1–14. https://doi.org/10.1080/21520704.2022.2103222

Baltzell, A., McCarthy, J., & Greenbaum, T. (2014). Mindfulness Strategies: Consulting with Coaches and Athletes: Background and Presentation of the 2013 AASP Annual Convention Workshop. *Journal of Sport Psychology in Action, 5*(3), 147–155. https://doi.org/10.1080/21520704.2014.943916

BECK, J. D., & DEBELISO, M. (2020). Examining Grit-like Qualities in National Football League Quarterbacks. *International Journal of Exercise Science, 13*(5), 912. https://pmc.ncbi.nlm.nih.gov/articles/PMC7449325/

Bednar, K., Voracek, M., & Tran, U. S. (2020). Common Factors Underlying the Five Facets of Mindfulness and Proposed Mechanisms: a Psychometric Study Among Meditators and Non-meditators. *Mindfulness*. https://doi.org/10.1007/s12671-020-01492-6

Boone, T., Board, R., Astorino, T., Baker, J., Brock, S., Dalleck, L., Goulet, E., Gotshall, R., Hutchison, A., Knight-Maloney, M., Kravitz, L., Laskin, J., Lim, Y., Lowery, L., Marks, D., Mermier, C., Robergs, R., Vella, C., Wagner, D., & Wyatt, F. (2017). Ponline Impact of Consecutive Games on Workload, State of Recovery and Well-Being of Professional Volleyball Players. *Journal of Exercise Physiologyonline, 20*(3). https://www.asep.org/asep/asep/JEPonlineJUNE2017_Timoteo.pdf

Bühlmayer, L., Birrer, D., Röthlin, P., Faude, O., & Donath, L. (2017). Effects of Mindfulness Practice on Performance-Relevant Parameters and Performance Outcomes in Sports: A Meta-Analytical Review. *Sports Medicine, 47*(11), 2309–2321. https://doi.org/10.1007/s40279-017-0752-9

Creswell, J. D. (2017). Mindfulness interventions. *Annual Review of Psychology, 68*(1), 491–516. https://doi.

org/10.1146/annurev-psych-042716-051139

Demir, S., & İNCE, D. K. (2023). Mindfulness-Based Cognitive Therapy: A Review. *Journal of Gazi University Health Sciences Institute, 5*(2), 77–82. https://doi.org/10.59124/guhes.1276584

Haraldsdottir, K., Sanfilippo, J., Anderson, S., Steiner, Q., McGehee, C., Schultz, K., & Watson, A. (2024). Mindfulness Practice Is Associated With Improved Wellbeing and Reduced Injury Risk in Female NCAA Division I Athletes. *Sports Health, 16*(2). https://doi.org/10.1177/19417381241227447

Eriksson, T. M., & Fox, E. J. (2021). The role of mindfulness in resilience and perseverance: A systematic review. *Journal of Positive Psychology, 16*(4), 523–535. https://doi.org/10.1080/17439760.2020.1752782

Eskreis-Winkler, L., Shulman, E. P., Beal, S. A., & Duckworth, A. L. (2014). The grit effect: predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology, 5*. https://doi.org/10.3389/fpsyg.2014.00036

Garland, E. L., Gaylord, S. A., & Fredrickson, B. L. (2011). Positive reappraisal mediates the Stress-Reductive effects of mindfulness: an upward spiral process. *Mindfulness, 2*(1), 59–67. https://doi.org/10.1007/s12671-011-0043-8

Kappes, C., Marion-Jetten, A. S., Taylor, G., Schad, D. J., Birte Dreßler, El-Hayek, S., Hansemann, J., Heine, R. J., Lindner, S., Melzner, L., Meyer, C., Pfister, B., Rogowski, K., Rose, R., Simson, K., & Stach, P. (2023). The role of mindfulness and autonomous motivation for goal progress and goal adjustment: an intervention study. *Motivation and Emotion, 47*. https://doi.org/10.1007/s11031-023-10033-2

Kuehl, K. S., Elliot, D. L., DeFrancesco, C., McGinnis, W., Ek, S., Van Horne, A., ... & Garg, B. (2023). An innovative model to add mindfulness to total worker health training: a feasibility and acceptability trial. *Journal of occupational and environmental medicine*, 10-1097. https://doi.org/10.1097/jom.0000000000003261

Kumbar, S., & Patil, Dr. B. M. (2024). A study on Investigating the levels of mental toughness and resilience among athletes, and how these psychological traits contribute to their performance in competitive sports. *International Journal of Research Publication and Reviews, 5*(4), 782–790. https://doi.org/10.55248/gengpi.5.0424.0914

Lebeau, J.-C., Tremml, B., Perrone, K. M., & Judge, L. W. (2024). Enhancing wellbeing and resilience in coaches: The impact of a mindfulnessbased intervention. *International Coaching Psychology Review, 19*(1), 19–31. https://doi.org/10.53841/bpsicpr.2024.19.1.19

Lee, J., & Park, J. (2024). The role of grit in inclusive education: a study of motivation and achievement among preservice physical education teachers. *Frontiers in Psychology, 15*. https://doi.org/10.3389/fpsyg.2024.1332464

Li, Q., Li, L., He, Q., & Wang, H. (2024). Exploring the role of mindfulness on obligatory exercise among young athletes: mediating roles of obsessive passion and cognitive state anxiety. *Frontiers in Public Health, 12,* 1381983. https://doi.org/10.3389/fpubh.2024.1381983

Mack, A. A., Baron, D., & Reinert, J. (2023). The role of mental health care in reaching optimal performance in sports. *Sports Psychiatry, 2*(4). https://doi.org/10.1024/2674-0052/a000050

Mahalingam, R. (2022). Mindfulness, Competition, and Sports Psychology: A Phenomenological Perspective (pp. 598–610). Oxford University Press EBooks. https://doi.org/10.1093/oxfordhb/9780190060800.013.25

Marshall, T., Farrar, A., Wilson, M., Taylor, J., George, P., Ghose, S. S., Cosgrove, J., & Patel, N. A. (2024). *Mindfulness-Based Interventions in Schools: Assessing the Evidence Base*. Psychiatric Services. https://doi.org/10.1176/appi.ps.20240027

Minkler, T. O. (2023). Drivers of Change in Mindfulness- and Acceptance-Based Interventions with Athletes: Investigating the Influence of Dosage, Readiness, and Attitudes. https://doi.org/10.33915/etd.11968

Minkler, T. O., Zizzi, S., Costalupes, B., & Follmer, D. J. (2022). A Mixed-Method Study of Athletes' Experiences With Mindfulness Across Stages of Readiness. *Journal of Clinical Sport Psychology, 17*(3), 1–19. https://doi.org/10.1123/jcsp.2021-0089

Mudiyanselage, K. W. W., De Santis, K. K., Jörg, F., Saleem, M., Stewart, R., Zeeb, H., & Busse, H. (2024). The effectiveness of mental health interventions involving non-specialists and digital technology in low-and middle-income countries–a systematic review. *BMC public health, 24*(1), 77.

Myall, K., Montero-Marin, J., Gorczynski, P., Kajee, N., Sheriff, R. S., Bernard, R., Harriss, E., & Kuyken, W. (2022). Effect of mindfulness-based programmes on elite athlete mental health: a systematic review and meta-analysis. *British Journal of Sports Medicine, 57*(2). https://doi.org/10.1136/bjsports-2022-105596

Nassif, T. H., Adrian, A. L., Gutierrez, I. A., Dixon, A. C., Rogers, S. L., Jha, A. P., & Adler, A. B. (2023). Optimizing performance and mental skills with mindfulness-based attention training: two field studies with operational units. *Military medicine, 188*(3-4), e761-e770. https://doi.org/10.1093/milmed/usab380

Pankovics, N., & Martinovic, M. (2024). Freedom from Within: A Meta-Analytic Review of Mindfulness Meditation-Based Interventions in Prisons. *European Journal of Behavioral Sciences, 7*(2), 1–22. https://doi.org/10.33422/ejbs.v7i2.1251

Poppendieck, W., Wegmann, M., Ferrauti, A., Kellmann, M., Pfeiffer, M., & Meyer, T. (2016). Massage and Performance Recovery: A Meta-Analytical Review. *Sports Medicine, 46*(2), 183–204. https://doi.org/10.1007/s40279-015-0420-x

San Román-Niaves, M., Vasquez, C. A., Coo, C., Nielsen,

K., Llorens, S., & Salanova, M. (2024). Effectiveness of compassion-based interventions at work: A systematic literature review and meta-analysis considering process evaluation and training transfer. *Current Psychology, 43*(26), 22238-22258.

Singh, A. (2020, June 5). Article Detail - *International Journal of Advanced Research. International Journal of Advanced Research.* https://www.journalijar.com/article/49674/the-effect-of-mindfulness-practices-on-employee-resilience-in-high-stress-industries/

Smith, M. R., Thompson, C., Marcora, S. M., Skorski, S., Meyer, T., & Coutts, A. J. (2018). Mental Fatigue and Soccer: Current Knowledge and Future Directions. *Sports Medicine, 48*(7), 1525–1532. https://doi.org/10.1007/s40279-018-0908-2

Stockton, M. B., McClanahan, B., & Vukadinovich, C. (2019). Relationships Among Coping Strategies And Training Intensity, Duration, And Frequency In Triathletes. *Medicine & Science in Sports & Exercise, 51*(Supplement), 732. https://doi.org/10.1249/01.mss.0000562685.91334.69

Tedesqui, R. A. B., & Young, B. W. (2017). Investigating grit variables and their relations with practice and skill groups in developing sport experts. *High Ability Studies, 28*(2), 167–180. https://doi.org/10.1080/13598139.2017.1340262

Tiwari, S., & Verma, K. (2023). A Critical Study of Angela Duckworth's Grit: The Power of Passion and Perseverance. *Research Journal of Humanities and Social Sciences, 14*(3), 152–154. https://doi.org/10.52711/2321-5828.2023.00031

Terzioğlu, Z. A., Yıldız, M., & Çakır, S. G. (2020). Examining the effectiveness of mindfulness-based training program on female handball players' psychological skills and coping with stress strategies. *Turkish Journal of Sport and Exercise, 22*(1), 30–37. https://doi.org/10.15314/tsed.690951

Walker, K. (2019). *Master of Education in Human Movement, Sport, and Leisure Studies Graduate Projects, 72*. https://scholarworks.bgsu.edu/hmsls_mastersprojects/72

Wehrmann, R., Dietrich, K. M., & Nguyen-Feng, V. N. (2024). Yoga and Mindfulness Training for Professional Baseball Players: A Narrative Study on Perspectives and Practices. *International Journal of Yoga Therapy, 34*(2024). https://doi.org/10.17761/2024-d-23-00076

Wong, R. S. K., How, P. N., & Cheong, J. P. G. (2022). The effectiveness of a mindfulness training program on selected psychological indices and sports performance of sub-elite squash athletes. *Frontiers in Psychology, 13*, 906729. https://doi.org/10.3389/fpsyg.2022.906729

Young, P., Elgee, A., Chow, V., Haslam, C. O., & Barker, J. B. (2024). A systematic review of cognitive behavioral and mindfulness-based interventions for white-collar worker mental well-being in business environments. *Mental Health Science, 2*(4), e84. https://doi.org/10.1002/mhs2.84