

Integral Health And Mindfulness: Exploring Effects On Lifestyle

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Abstract

The growing adoption of mindfulness practices and their impact on overall health have motivated the conduct of this systematic review. The central focus is to understand how mindfulness influences lifestyle by examining studies that address the relationship between mindfulness, physical activity, nutrition, and well-being. The reviewed studies indicate that mindfulness practices offer significant benefits in terms of vitality, improvement in cognitive functions, hormonal regulation, and satisfaction with physical activity. The incorporation of mindfulness practices shows potential for enhancing various aspects of well-being, underscoring its relevance in diverse contexts. These findings support the integration of mindfulness as a holistic strategy to promote health and balance in lifestyle.

Keywords: *Overall Health, Mindfulness, Physical Activity, Well-being, Satisfaction.*

Date of Submission: 27-02-2024

Date of Acceptance: 07-03-2024

I. Introduction

Mindfulness refers to the full and non-judgmental awareness of the present moment, involving an open and receptive acceptance of thoughts, feelings, and sensations (Bühlmayer et al., 2017). This technique can impact various essential psychological skills, including attentional skills, volitional abilities, personal development, and life skills (Sparks and Ring, 2022). The growing interest in mindfulness practices and their influence on different aspects of human life has motivated extensive research in various fields, including health, well-being, and physical performance (Birrer and Morgan, 2010; Geisler et al., 2018; Wu et al., 2021; Nien et al., 2020; Wong et al., 2022; Zadeh et al., 2019). The relevance of these practices transcends the boundaries of traditional medicine and enters fields such as psychology, physical education, and sports science. The significance of these studies lies in the pursuit of holistic approaches to improve quality of life, promote mental health, and optimize performance in physical activities. However, despite the growing body of evidence supporting the benefits of mindfulness, a substantial gap persists in the literature regarding the direct comparison between mindfulness practices and conventional physical exercise in terms of vitality improvement (Bühlmayer et al., 2017). Although there are studies demonstrating the positive impacts of mindfulness and physical exercise separately, there is a lack of investigations exploring the relative efficacy of these approaches when directly confronted. This gap highlights the need for a deeper understanding of how mindfulness practices compare to the known benefits of physical exercise in promoting vitality. This lack of direct comparison can be attributed to the methodological complexity of studying both elements simultaneously, considering variables such as frequency, intensity, and type of exercise, along with the nuances of mindfulness practices (Birrer & Morgan, 2010). The absence of studies that comprehensively address this issue justifies the present research, aiming to fill this gap by comparatively exploring the effects of mindfulness practices in relation to traditional physical exercise in promoting vitality. This work is essential for guiding more effective interventions in holistic

health promotion, providing valuable insights for health professionals, researchers, and those interested in optimizing their well-being through conscious and active approaches.

II. Methodology

The type of study chosen for this research was developed through a systematic review of the literature related to the topic. Therefore, the organization of the literature review is an analysis of the main existing knowledge bases. Articles published in the last 5 years were included in this research. Studies from the PubMed and Cochrane databases were used. After searching for articles, the research followed the stage of analysis for inclusion and exclusion of the selected materials. Initially, the titles were analyzed, followed by the analysis of the abstracts to determine which articles met the research's study intention. Subsequently, the full articles that showed interconnection among the chosen keywords were analyzed. The keywords used for the research were: "mindfulness," "Physical Activity," "Well-being," and "Satisfaction." The analysis of the collected data was expressed in a discursive manner and illustrated through tables and charts. The table contains the title and author's name, methodology, and main findings of each article. A figure of the design of knowledge acquired through schemes was organized in a summarized form and analyzed according to the theoretical framework.

III. Results

Das pesquisas realizadas nas bases de dados, foram encontrados 312 artigos descritos de acordo com as palavras-chave. De acordo com os títulos, 15 artigos foram separados para leitura do resumo correspondente. Após a leitura dos resumos, 9 artigos foram descartados por não apresentarem coesão principal com o tema. Seis artigos foram selecionados para uma leitura completa e coerente para o desenvolvimento desta revisão (Figura 1). Os achados frente aos efeitos do mindfulness e a saúde integral são apresentados na tabela 1.

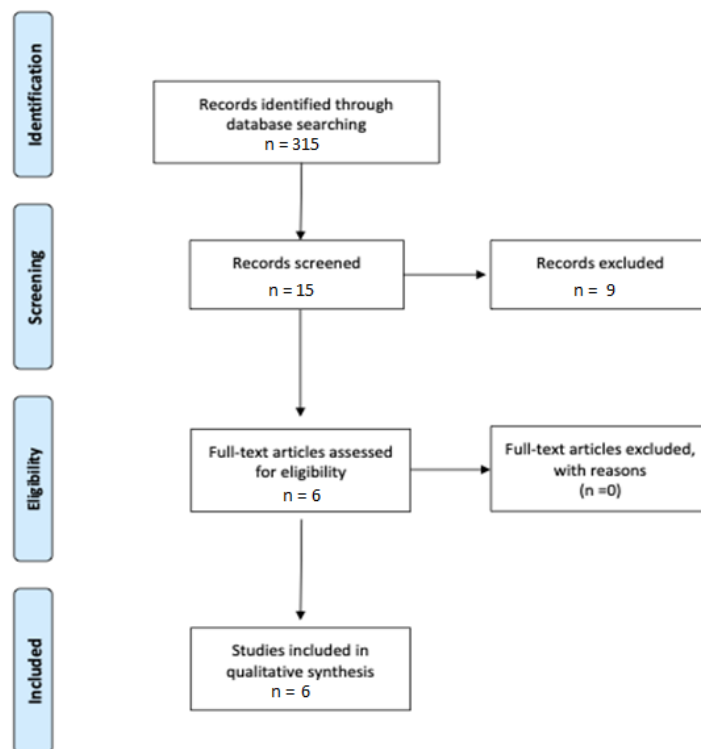


Figure 1. Literature Analysis Flow.

The results indicate that guided mindfulness practice proved to be more effective in improving vitality, including tenacity, serenity, and acuity, compared to self-directed physical exercise. Furthermore, a positive relationship between mindfulness and physical activity was observed, highlighting that an increase in mindfulness during physical activity is associated with a greater practice of exercises. This association between mindfulness and physical activity was mediated by satisfaction, indicating that mindfulness positively influences satisfaction with physical activity, which in turn is related to an increase in exercise practice. Notably, the habit of practicing physical activity played a moderating role, with the association between mindfulness and physical activity being significant mainly when the exercise habit was weak.

Physiological results revealed that the group combining aerobic exercise with deep breathing and mindfulness meditation experienced significant reductions in fasting glucose levels and cortisol compared to the group that performed only aerobic exercise. This reduction was particularly pronounced, evidencing a decrease of 30.29% in cortisol levels and 14.54% in glucose levels in the intervention group compared to the control group.

Regarding studies related to the practice of mindfulness in the sports context, the results indicated significant improvements in various psychological and sports performance aspects. The mindfulness training group showed statistically significant increases in scores of observation, description, conscious action, and total score on the Five Factor Mindfulness Questionnaire (FFMQ). Additionally, there were significant improvements in the dimensions of tenacity, strength, and optimism on the Mental Resilience Scale (CD-RISC-25) for the mindfulness group. These participants also demonstrated a reduced perception of exercise intensity after an 800-meter endurance run compared to the control group.

Concerning the intake of antioxidants and nutrients, the results revealed significant intake of vitamin C, vitamin E, and polyphenols, sourced from various food items including seeds, green tea, coffee, dark chocolate, and fresh fruits. Moreover, the distribution of these antioxidants by food groups highlighted the importance of grains and seeds in the overall intake of antioxidant substances.

Analysis of physiological parameters during an ultra-endurance event indicated a resting heart rate of 55 bpm, an average of 145 bpm during the event, and a predominance of time spent at moderate intensity. As for sports performance, the results showed a maintained speed rate between 14 and 23 cycles per hour, a total distance covered of 75.81 km, and an average metabolic equivalent (MET) of 4.8 throughout the event.

Observations on diet suggested the importance of optimal carbohydrate intake, with an emphasis on the proper distribution of energy derived from carbohydrates, fats, and proteins. Additionally, the relevance of sustainability in athletes' diet was emphasized, promoting organic, local, and seasonal alternatives.

Finally, the association between mindfulness and motivation for physical activity was highlighted, revealing significant correlations between scores on the State Mindfulness Scale for Physical Activity (SMS-PA) and different forms of motivation, particularly intrinsic motivation. The experience of physical activity was also associated with higher levels of mindfulness during exercise practice, especially among participants who were more physically active and involved in competitive sports. These results underscore the importance of mindfulness in various aspects related to holistic health and sports performance.

Tabela 1. Efeitos do mindfulness e a saúde integral.

Título	Metodologia	Mindfulness e Saúde Integral
<p>Mindfulness Practice versus Physical Exercise in Enhancing Vitality", Yan et al. 2023</p>	<p>The study involved 76 Chinese participants, who were randomly divided into groups for mindfulness practice (meditation) and aerobic physical exercise. They completed a seven-day training program and were evaluated for vitality using the Four-Factor Vitality Scale (FFVS) before, immediately after the training, and in a seven-day follow-up.</p> <p>This design allows for an assessment of the immediate and short-term effects of mindfulness and aerobic exercise on participants' perceived vitality. By using a randomized approach, the study aims to reduce biases and ensure that the results are as reliable as possible. The inclusion of a follow-up evaluation helps in understanding the sustainability of the benefits gained from both mindfulness meditation and aerobic exercise.</p>	<p>The results of the study emphasize that guided mindfulness practice was more effective in improving vitality and its factors (tenacity, serenity, acuity) compared to self-directed physical exercise. This suggests that mindfulness meditation may have a more significant impact on these aspects of well-being than physical exercise when practiced in a structured and guided manner.</p>
<p>Mindfulness and satisfaction in physical activity: A cross-sectional study in the Dutch population", Tsaou et al. 2016</p>	<p>The study recruited 398 Dutch participants and utilized questionnaires to gather data on mindfulness, satisfaction with physical activity, and exercise habits. Sophisticated statistical analyses, including mediation and moderation analyses, were employed to scrutinize the interrelations between mindfulness, satisfaction with physical activity, and the participants' engagement in physical exercises. The mediation analysis aimed to explore if satisfaction with physical activity serves as an intermediary in the relationship between mindfulness and physical activity levels. In contrast, the moderation analysis sought to determine whether this relationship is influenced by variables like the intensity of satisfaction or variations in exercise habits. This comprehensive approach offers valuable insights into how mindfulness potentially enhances satisfaction with physical activity, thereby promoting more frequent or intensive engagement in exercise, and identifies key factors that might affect this relationship.</p>	<p>Positive Relationship Between Mindfulness and Physical Activity: There was a notable association between an increase in mindfulness during physical activity and a subsequent increase in the practice of such activities. This suggests that heightened mindfulness can lead to more engagement in physical activities, potentially due to a heightened awareness and presence during exercise.</p> <p>Mediation by Satisfaction: The connection between mindfulness and physical activity was found to be mediated by satisfaction. This means that mindfulness positively impacts satisfaction with physical activity, which then contributes to an increase in the practice of physical activities. Essentially, when individuals experience greater satisfaction during their physical activities, likely enhanced by mindfulness, they are more inclined to engage in these activities more regularly.</p> <p>Moderating Role of Habit: The relationship between mindfulness and physical activity was significant primarily when the habit of practicing physical activity was weak. This indicates that mindfulness is particularly effective in encouraging physical activity among individuals who do not have a strong pre-existing habit of regular exercise. In contrast, for those who already have a strong exercise routine, the additional influence of mindfulness on their physical activity levels was not significant.</p>
<p>Effect of aerobic exercise, slow deep breathing and mindfulness meditation on cortisol and glucose levels in women with type 2 diabetes mellitus: a randomized controlled trial", Obaya et al. 2023</p>	<p>The study implemented a randomized clinical trial, dividing participants into two groups: one underwent only aerobic exercise, while the other combined aerobic exercise with</p>	<p>The physiological results from the study indicated significant health benefits for the group that combined aerobic exercise with deep breathing and mindfulness meditation. This group experienced substantial reductions in fasting glucose levels ($p = 0.001$) and cortisol levels ($p = 0.01$) compared to the group that engaged only in aerobic</p>

	<p>deep breathing and mindfulness meditation. Over a six-week intervention period, both groups were monitored and evaluated for changes in their glucose and cortisol levels, serving as indicators of metabolic health and stress response. This design aimed to assess and compare the impacts of these two different approaches – traditional physical exercise versus a holistic approach combining physical and mindfulness exercises – on key health markers. The inclusion of mindfulness and deep breathing with aerobic exercise in one of the groups was particularly notable, as it explored the potential synergistic effects of combining physical and mental wellness practices, a relatively less explored area in health and wellness research.</p>	<p>exercise. Specifically, the intervention group showed a remarkable decrease of 30.29% in cortisol levels and 14.54% in glucose levels relative to the control group.</p>
<p>On Mindfulness Training for Promoting Mental Toughness of Female College Students in Endurance Exercise", Wang et al 2021</p>	<p>The study employed a controlled experimental design with parallel groups. Participants were divided into a mindfulness training group and a control group that received traditional physical training. Data collection involved assessments before and after the intervention, focusing on measures of mindfulness, mental resilience, perceived intensity during exercise, and athletic performance.</p>	<p>The study's findings revealed that the mindfulness training group exhibited significant improvements in various psychological aspects and sports performance compared to the control group. Specifically, the mindfulness group showed statistically significant increases in scores of observation, description, conscious action, and overall score on the Five Factor Mindfulness Questionnaire (FFMQ). This suggests that the mindfulness training effectively enhanced the participants' mindfulness skills, as measured by this established scale.</p>
<p>Sustainable Food Support during an Ultra-Endurance and Mindfulness Event: A Case Study in Spain", Garrido-Pastor et al. 2021</p>	<p>Based on the provided information, the study's methodology involved observing an athlete during an ultra-endurance event, with a focus on several key aspects: nutrient intake, mindfulness practice, physiological parameters, and performance. The athlete followed a sustainable approach to nutrition, emphasizing the consumption of unprocessed foods. The study aimed to assess the feasibility and benefits of this holistic approach for athletic performance and health, highlighting the link between mindfulness, dietary choices, and physiological outcomes.</p>	<p>The study provided a detailed analysis of an athlete's performance during an ultra-endurance event, focusing on nutrient intake, mindfulness practice, physiological parameters, and performance, while adhering to a sustainable and unprocessed food-based diet. The findings offer valuable insights into the feasibility and benefits of this approach for athletic performance and health, emphasizing the interplay between mindfulness, dietary choices, and physiological outcomes:</p> <p>Antioxidant and Nutrient Intake: Significant intake of vitamin C (1079 mg), primarily from tangerines, lemon juice, kiwis, and blueberries. Vitamin E intake (57 mg) mainly from almonds, sunflower seeds, extra virgin olive oil, and seasonings. Total polyphenol intake (1909 mg), with phenolic acids and lignans being prominent.</p> <p>Sources of Antioxidants: Seeds (such as sesame, wax, and sunflower) were notable sources of polyphenols. About 44% of polyphenol intake came from green tea, coffee, and dark chocolate. Fresh fruits (blueberries, lemon juice, and tangerines) were key, contributing 29% to the total polyphenol intake.</p> <p>Antioxidant Distribution by Food Group: Over half (55%) of the antioxidant intake (vitamin C, vitamin E, and polyphenols) came from grains and seeds. One-third from fruits and nuts, while 11% came from spices, herbs, and seasonings.</p> <p>Physiological Parameters: Resting heart rate of 55 bpm, averaging 145 bpm during the event. Over 50% of the total time was spent at moderate intensity, and for over 4 hours, the physical load was classified as intense.</p> <p>Athletic Performance:</p>

		<p>The speed rate (cycles/hour) was maintained between 14 and 23 cycles per hour.</p> <p>The total distance covered was 75.81 km, with a total step count of 95,546.</p> <p>Average Metabolic Equivalent of Task (MET) of 4.8 throughout the event.</p> <p>Diet Composition:</p> <p>Met the recommended carbohydrate intake of 81 g/h during the event.</p> <p>Ideal energy distribution with 65% carbohydrates, 25% fats, and 10% proteins.</p> <p>Protein intake mainly from plant sources (75%).</p> <p>Observations on Sustainability and Awareness:</p> <p>The study underscores the importance of a sustainable approach in athletes' diets.</p> <p>It proposes alternatives and raises awareness about using organic, local, and seasonal products, avoiding ultra-processed foods and plastics.</p> <p>This comprehensive analysis suggests that a mindful, sustainable approach to nutrition, combined with mindfulness practices, can positively influence an athlete's physiological responses and performance in endurance events.</p>
<p>Validity evidence for the adaptation of the State Mindfulness Scale for Physical Activity (SMS-PA) in Spanish youth", Ullrich-French et al. 2017</p>	<p>The study involved a sample of 519 participants, primarily young individuals, to validate the Spanish adaptation of the State Mindfulness Scale for Physical Activity (SMS-PA).</p> <p>The research utilized a combination of exploratory and confirmatory factor analyses, correlation studies, and analyses of variance (ANOVA) to examine the scale's validity and reliability.</p>	<p>Relationship with Motivation for Physical Activity: There were significant correlations between SMS-PA scores and different types of motivation for physical activity. Notably, these correlations were strongest with intrinsic motivation.</p> <p>This suggests that higher levels of mindfulness during physical activity are linked with a more intrinsic motivation to engage in such activities. Intrinsic motivation refers to engaging in an activity for its inherent satisfaction rather than for some separable consequence. This finding indicates that when individuals are more mindful during physical activities, they are likely to find these activities more inherently rewarding and enjoyable, which in turn motivates them to continue engaging in these activities.</p> <p>Association with Physical Activity Experience: Participants who were more physically active and involved in competitive sports reported higher levels of mindfulness during physical activity. This could imply that engaging regularly in physical activity, especially at a competitive level, may either cultivate a heightened state of mindfulness or that individuals who are naturally more mindful may be drawn towards and excel in physical and competitive activities. This association underscores the potential interplay between mindfulness and physical performance, suggesting that mindfulness could be a beneficial trait or skill for athletes and those who are regularly active.</p>

IV. Discussion

The analysis of the results revealed significant impacts of mindfulness practice in various aspects, from improving vitality to specific physiological and psychological benefits. These findings corroborate previous research highlighting the positive effects of mindfulness in diverse contexts (Yan et al., 2023; Obaya et al., 2023).

Regarding vitality, mindfulness proved to be more effective than self-directed physical exercise, positively influencing tenacity, serenity, and acuity (Yan et al., 2023). This discovery is consistent with literature that emphasizes the relationship between mindfulness and overall well-being (Wang et al., 2021).

The physiological results corroborate the benefits of combining aerobic exercise with mindfulness, showing significant reductions in fasting glucose and cortisol levels. This effect can be attributed to mindfulness's ability to modulate physiological responses to stress (Obaya et al., 2023; Nien et al., 2020).

In the sports context, systematic mindfulness practice was associated with improvements in both psychological and performance aspects. Increases in mindfulness and mental resilience scores, along with a reduced perception of exercise intensity, suggest a positive influence on psychological aspects and physical effort management (Wang et al., 2021; Garrido-Pastor et al., 2021).

The findings related to the intake of antioxidants and nutrients highlight the importance of a balanced diet rich in antioxidant foods, such as seeds, fresh fruits, and teas. This nutritional approach can contribute to overall health and physical performance (Garrido-Pastor et al., 2021).

The physiological parameters during the ultra-endurance event indicate the body's adaptability to regular strenuous physical activity, with an ideal distribution of energy from carbohydrates, fats, and proteins (Garrido-Pastor et al., 2021).

The association between mindfulness and motivation for physical activity, especially intrinsic motivation, suggests that mindfulness practice can positively influence individuals' attitudes and motivation towards physical exercise (Ullrich-French et al., 2017; Tsafou et al., 2016).

This discussion highlights the breadth of the benefits of mindfulness, extending beyond psychological aspects to positively impact vitality, physiological parameters, diet, and motivation for physical activity. However, it is crucial to recognize the need for more research addressing the complexities and individual variations of these effects, contributing to a more complete and personalized understanding of these practices (Garrido-Pastor et al., 2021; Ullrich-French et al., 2017).

By corroborating and expanding previous results, especially regarding the benefits of mindfulness in vitality, sports performance, and physiological parameters, this study validates the consistency of these effects across different populations and settings (Yan et al., 2023; Obaya et al., 2023; Nien et al., 2020).

By gathering information from studies exploring mindfulness in different domains, such as mental health, sports performance, and diet, the analyses offer an integrated view, highlighting the interconnection between psychological, physiological, and behavioral factors (Garrido-Pastor et al., 2021; Tsafou et al., 2016). The analysis of the relationship between mindfulness and motivation for physical activity expands the scope of the research beyond direct physical benefits, exploring psychological aspects that can influence exercise patterns (Ullrich-French et al., 2017; Tsafou et al., 2016).

Observations about sustainability and awareness in athletes' diets provide valuable insights for promoting sustainable eating practices, highlighting the importance of conscious choices in sports nutrition (Garrido-Pastor et al., 2021). The identification of individual variations in the results of mindfulness practice suggests the need for future research considering practitioners' individual characteristics, contributing to the development of personalized interventions (Nien et al., 2020; Ullrich-French et al., 2017).

V. Future Perspectives

Considering the analyses presented and recent advances in mindfulness research, several future perspectives emerge for the continuity of the theme. Longitudinal studies could offer insights into the long-term effects of mindfulness practice in different areas, including vitality, sports performance, and mental health. Understanding how these effects develop over time could provide a more comprehensive view of the efficacy and sustainability of this practice.

Exploring more personalized approaches to mindfulness practice is crucial, considering the individual variations in outcomes. Future research could focus on identifying specific practitioner characteristics that influence the response to mindfulness, allowing for the development of more targeted and effective interventions. Expanding investigations of mindfulness to different populations, such as children, the elderly, and specific groups with health conditions, could provide insights into the adaptability and benefits of this practice in diverse contexts.

The integration of technologies, such as mindfulness apps and wearable devices, could be a promising area for future research. Evaluating how these technologies can facilitate practice and monitor outcomes over time might open new possibilities for the dissemination and accessibility of mindfulness. Further research into

the relationships between mindfulness, psychological factors, and physiological responses can offer a more refined understanding of the underlying mechanisms. This could include investigations into how mindfulness directly influences specific biological systems and modulates stress responses.

Evaluating the benefits of combined strategies, such as integrating mindfulness with other practices like physical exercise, nutrition, and specific therapies, could be a promising area. These integrative approaches might enhance the positive effects on different health aspects. Understanding how mindfulness can influence social awareness, empathy, and sustainable behavior could open new research frontiers. Investigating the relationship between mindfulness and environmental awareness could contribute to more sustainable sports practices.

VI. Conclusion

The relationship between mindfulness and vitality has proven significant, especially when compared to self-directed physical exercise. The unique ability of mindfulness to enhance vitality, evidenced by factors of tenacity, serenity, and acuity, offers a valuable perspective for those seeking substantial improvements in their overall well-being. Moreover, the interconnection between mindfulness and physical activity revealed intriguing associations. Mediation through satisfaction and the moderating role of habit shed light on the mechanisms by which mindfulness can positively influence regular physical activity practice, especially when existing habits are less established.

The physiological and nutritional analyses further consolidate the importance of mindfulness. Significant reductions in glucose and cortisol levels, along with a balanced distribution of antioxidants, reinforce the comprehensive benefits of this practice for physical health. However, to maximize the impact of mindfulness, it is imperative to consider the outlined future perspectives. Longitudinal investigations, personalization of interventions, applications in different populations, and deepening in psychophysiological relationships are promising areas to advance our understanding.

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