

Exploring the effects of outdoor exercise versus indoor exercise on Physiological and Psychological



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Introduction

Regular exercise and physical activity are essential for maintaining good physical and mental health (Biddle *et al.*, 2021). They offer immediate positive effects on mood and can help reduce the risk of chronic diseases while improving body composition. Despite these known benefits, physical inactivity remains a growing global concern, leading to significant health and economic burdens (Haseler and Haseler, 2022). During the COVID-19 pandemic, restrictions on indoor activities led to decreased physical activity levels, emphasising the importance of accessible outdoor spaces. Furthermore, nature has been shown to generate positive emotions such as calmness, joy, and creativity, and facilitate concentration, since humans are known to be biophilic, having an innate tendency to connect with nature (Grandi and Patil, 2009). Subsequently, recent studies suggest that combining exercise/physical activity with natural environments can offer immediate physiological and psychological benefits (Wicks *et al.*, 2022). The insights from the studies can provide valuable guidance for healthcare professionals (Interventions), fitness and sports enthusiasts, including nature lovers.

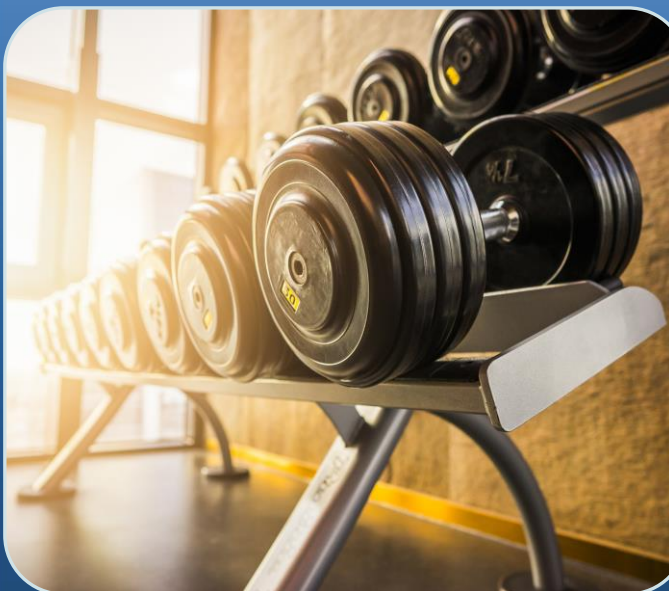
Aims

1. Discuss the impact of physical activity and exercise in indoor and natural environments on adults.
2. Explore if there are more benefits to exercising or being physically active in natural habitats than in indoor environments.
3. Explore if chronic and acute exercise influence the proposed benefits of exercise and physical activity in indoor environments compared to natural environments.
4. To investigate whether factors such as intensity, duration, mode (type), and frequency of exercise and physical activity influence the potential benefits derived from performing exercise in natural environments

Method

The narrative review involved searching electronic databases such as GreenFile, Science Direct, PubMed and Google Scholar for relevant studies. The search terms focused on the effects of exercise/physical activity in natural and indoor environments, including variations like "green exercise." Eligible studies were original articles in English falling into specific categories (cross-sectional studies, randomised control trials, non-randomised clinical trials, and literature reviews), with duplicated research removed. Data from selected articles were analysed to review and categorise findings regarding the impacts of physical activity in different environments and contributing factors.

Discussion

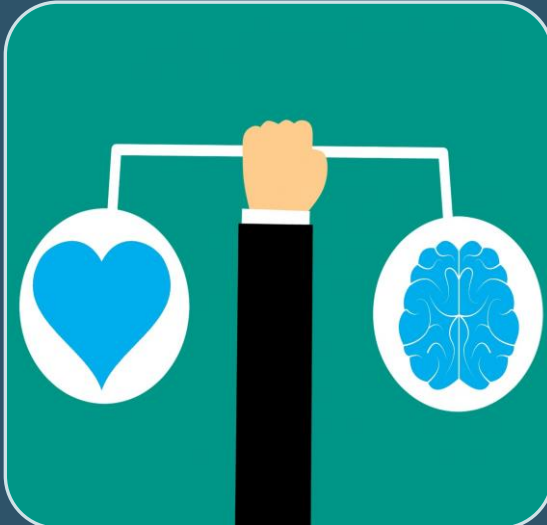


Physiological Benefits: Outdoor exercise, offers significant cardiovascular advantages. It leads to higher heart rates during physical activity and greater reductions in blood pressure compared to indoors. Outdoor exercise participants had higher vitamin D levels.



Psychological Effects: Studies stated that moderate outdoor exercise significantly improves mood, reduces stress, and reduces depression symptoms more effectively than indoor exercise ($p < 0.005$). While some studies did not find significant differences ($p > 0.005$), nature consistently improved compared to indoor settings (Irandoust and Taheri, 2017).

The impact on anxiety reduction varied, outdoor exercise provided cognitive benefits such as improved attention and working memory. However, indoor settings might be preferable for cognitive enhancement in older adults due to lower pollution levels indoors.



Emotional Well-being and Social Benefits: Experiencing nature directly or viewing natural scenes positively impacts emotional well-being. People who engage in outdoor "green exercise" report heightened feelings of social connectedness, belonging, and community compared to indoor exercisers in urban settings devoid of natural elements. These findings underscore the holistic benefits of incorporating nature into exercise routines for physical and mental well-being.



Reflection

An effective narrative review requires a diligent search of existing literature from multiple sources to understand the topic and its significance. It is crucial to critically analyse various studies' methodologies and limitations while identifying consistencies and contradictions to determine areas that require further investigation. Effective research necessitates proper planning, organisation, and prioritisation, including setting realistic deadlines. Failure to adhere to these principles can hinder the research process and result in inadequate findings.

Reference List

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Wicks, C., Barton, J., Orbell, S. and Andrews, L. (2022) 'Psychological Benefits of Outdoor Physical Activity in Natural versus Urban environments: a Systematic Review and Meta-analysis of Experimental Studies', *Applied Psychology: Health and Well-Being*, 14(3). Available at: <https://doi.org/10.1111/aphw.12353>