



The Effect of Outdoor Recreational Areas on Public Health: A Systematic Review

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REVIEW

Abstract

This systematic review aims to assess studies over the past five years (2018–2023) regarding the influence of outdoor recreation areas on public health. We aggregated data from a study encompassing 18 articles in the PubMed, Scopus, and Web of Science databases, utilizing the keywords "open-air recreation areas," "public health," "physical health," "mental health," and "social well-being." Research indicates that outdoor recreational areas enhance mental health by reducing stress, foster social relationships among neighbors, and promote physical health by encouraging exercise. We advocate for the utilization of longitudinal and experimental designs in forthcoming studies to improve our understanding of the beneficial impacts of these domains on public health. A comprehensive analysis of the health effects of outdoor recreational areas necessitates a more in-depth examination of environmental and socioeconomic factors, alongside an increased volume of research targeting varied demographic groups.

Keywords: *Outdoor Recreation Areas, Public Health, Physical and Mental Health, Wellness.*

Özet

Bu sistematik inceleme, son beş yılda (2018-2023) açık hava rekreasyon alanlarının halk sağlığı üzerindeki etkisine ilişkin yapılan çalışmaları değerlendirmeyi amaçlamaktadır. PubMed, Scopus ve Web of Science veri tabanlarında bulunan 18 makaleyi kapsayan bir çalışmadan, "açık hava rekreasyon alanları", "halk sağlığı", "fiziksel sağlık", "ruh sağlığı" ve "sosyal refah" anahtar kelimelerini kullanarak veriler toplanmıştır. Araştırmalar, açık hava rekreasyon alanlarının stresi azaltarak ruh sağlığını iyileştirdiğini, komşular arasında sosyal ilişkileri teşvik ettiğini ve egzersizi teşvik ederek fiziksel sağlığı desteklediğini göstermektedir. Bu alanların halk sağlığı üzerindeki faydalı etkilerine ilişkin anlayışımızı geliştirmek için önümüzdeki çalışmalarda uzunlamasına ve deneysel tasarımların kullanılmasını savunuyoruz. Açık hava rekreasyon alanlarının sağlık etkilerinin kapsamlı bir analizi, çeşitli demografik grupları hedefleyen artan miktarda araştırmanın yanı sıra çevresel ve sosyoekonomik faktörlerin daha derinlemesine incelenmesini gerektirir.

Anahtar kelimeler: *Açık Hava Rekreasyon Alanları, Halk Sağlığı, Fiziksel ve Ruhsal Sağlık, Refah.*

Introduction

Outdoor recreational areas generally encompass diverse settings, including parks, walking trails, beaches, picnic areas, and promenades. These regions are vital ecosystems that facilitate physical activity, foster interactions with nature, and cultivate social connections. In recent years, the potential effects of these environments on public health have garnered increased study attention. Research underscores the beneficial impacts of outdoor recreational spaces on multiple facets of public health, encompassing physical health, emotional well-being, and social cohesion (Lee et al., 2015).

Moreover, these environments alleviate chronic conditions such as obesity, cardiovascular disease, diabetes, and mental health disorders by increasing individuals' physical activity levels (Cohen et al., 2007). These areas contribute to stress reduction, mood enhancement, and the promotion of mental well-being (Pretty et al., 2005). Outdoor recreational areas offer natural settings for individuals to engage in physical activity, which is considered an essential component of a healthy lifestyle. Cohen et al. (2007) show that individuals living in proximity to parks exhibit heightened levels of physical activity. Richardson et al. (2013) similarly found that outdoor recreational areas promote participation in physical activities, such as walking and jogging. However, significant discrepancies exist in the empirical methodologies utilized to assess the impact of outdoor recreational areas on physical health. Certain studies have employed survey methodologies to evaluate individuals' access to and frequency of outdoor recreational sites (Sugiyama et al., 2008), whereas others have utilized objective assessments via technical instruments such as GPS and mobile applications (Krenn et al., 2011). Consequently, more research that synthesizes and compares these diverse methodological approaches is crucial for a comprehensive understanding of the effects of outdoor recreation on physical health.

Researchers have thoroughly studied the impact of outdoor recreational areas on mental health. Engagement with natural surroundings diminishes stress, elevates mood, and boosts overall mental well-being (Hartig et al., 1991). Ulrich et al. (1991) discovered that time spent in nature enhances mental calm and substantially reduces stress. Moreover, outdoor recreational places mitigate feelings of loneliness by providing avenues for social connection (Sugiyama et al., 2008). Nevertheless, several studies in this domain encounter constraints when assessing the influence of outdoor recreational spaces on mental health. Many studies utilize cross-sectional designs, complicating the establishment of causal links. Longitudinal studies are

essential to address the deficiencies in this domain; these studies provide a deeper comprehension of the enduring mental health impacts of outdoor recreational areas (White et al., 2013).

Outdoor recreation areas' diverse health benefits significantly contribute to the improvement of both individual and communal well-being. This study aims to thoroughly review the evidence about the impact of outdoor recreation places on public health. The evaluation will focus on various methodological techniques, sample sizes, and measurement instruments employed to analyze the effects of outdoor recreation places on physical and mental health.

Method

Data Collection Technique

This systematic review aims to analyze papers published from 2018 to 2023 in esteemed scientific databases, including PubMed, Scopus, and Web of Science. The research aims to address the question, “What effect do outdoor recreation areas exert on public health?” We included the papers based on the presence of keywords like "outdoor recreation areas," "public health," "physical health," "mental health," "social well-being", “city parks”, and “public health”. For studies inclusion criteria observational, experimental, observational, qualitative, cross-sectional and longitudinal. We first screened titles and abstracts in the literature review procedure, followed by a comprehensive analysis of the complete texts of qualifying papers. We rejected studies that did not meet the inclusion criteria, citing factors such as study design, sample size, research question, and relevance to the specified keywords.

Data Analysis

We performed content evaluation on the selected articles during the data analysis procedure. We selected content analysis as the primary data analysis approach for this review because it allows us to categorize research findings and identify similarities and differences (Elo & Kyngäs, 2008). We categorized each publication based on essential elements such as research design, methodology, sample size, principal findings, and limitations. The investigation revealed several themes and patterns regarding the impact of outdoor recreational places on public health. We specifically analyzed the effects on physical health, mental health, and social well-being, as well as the underlying processes that lead to these outcomes. We

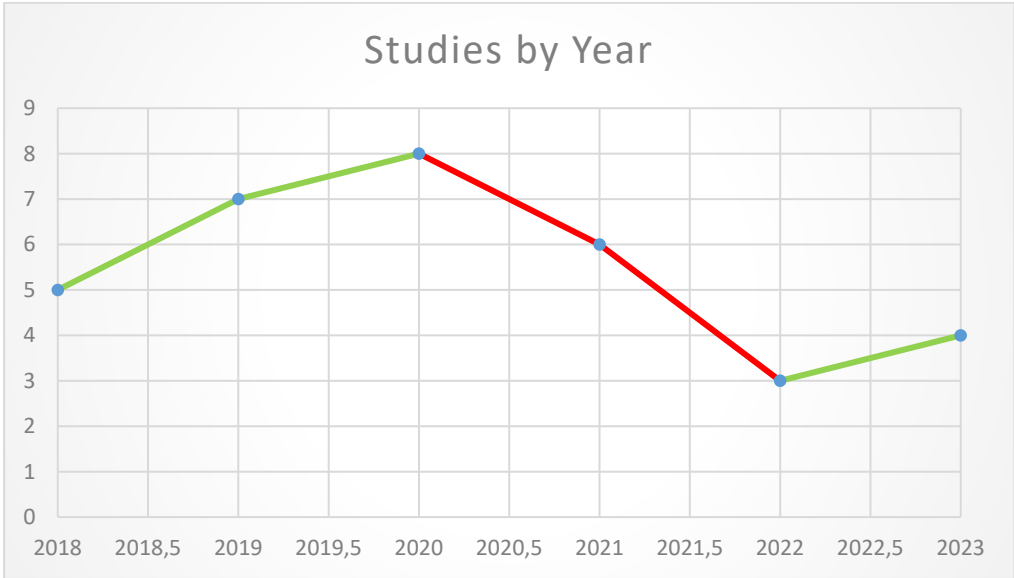
organized the findings to elucidate the comprehensive impacts of outdoor recreation places on public health and the variability of these effects among diverse population groups.

Ethic

We sourced all publications in this review from esteemed scientific databases such as PubMed, Scopus, and Web of Science, ensuring the study's foundation on credible and trustworthy sources. During the writing process, we performed an impartial and objective evaluation of the existing literature, presenting the findings without bias. This study, being a systematic review, did not directly obtain any data from individuals. The review derived all data from publicly accessible scholarly papers, thereby eliminating concerns over data confidentiality or privacy. We rigorously maintained the tenets of scientific integrity, objectivity, transparency, and respect for copyright during the research process.

Findings

Table 1
Distrubution of Studies by Year



This graph shows the distribution of studies examining the effects of outdoor recreation areas on public health by year. From the graph, it can be seen that there is a significant increase in research on this topic in 2020 and 2021.

Table 2

The studies and their results between the years 2017 – 2024.

Study	Year	Research Design	Sample	Key Findings
Lee et al.	2018	Experimental	800	Positive effects on cardiovascular health were observed.
Kondo et al.	2018	Qualitative	450	Increased mental well-being and reduced anxiety.
Gascon et al.	2018	Cross-sectional	958	Higher social support among frequent users and improvements in mental health in green spaces.
Gozalo et al.	2018	Cross-sectional	182	Reduced environmental noise in green spaces contributes to lower pollution and improved quality of life.
Hedblom et al.	2019	Experimental	350	Regular use of parks is associated with reduced stress levels.
Cleary et al.	2019	Longitudinal	1000	Long-term improvements in mental health and increased social engagement.
Chen et al.	2019	Observational	950	Direct forest exposure positively affects the central nervous system, endocrine system, and overall immunity.
Seo et al.	2019	Longitudinal	351,409	Increased urban green spaces reduce cardiovascular diseases.
Thompson et al.	2020	Experimental	600	Reduction in mental fatigue.
Walker et al.	2020	Cross-sectional	1000	Improvements in physical and mental health outcomes.
Nguyen et al.	2021	Qualitative	68	Positive developments in allergic conditions, cardiovascular health, and mental well-being.
Sharif et al.	2021	Observational		Greater inclusion of recreational spaces in urban planning.
Callaghan	2021	Qualitative	25	Positive effects on mental health.
Jiang & Huang	2022	Longitudinal	7,326	Increased social cohesion and quality of life.
Krenn et al.	2022	Experimental	600	Reduced cardiovascular risk among frequent users.
Harris et al.	2023	Observational	650	Better mental health in areas rich in natural spaces.
Moore et al.	2023	Longitudinal	950	Improved resilience to stress.
Noe et al.	2023	Qualitative	21	Enhanced social participation and community spirit.

Discussion and Conclusion

After analyzing the findings from the literature, three themes emerged: physical health, mental health, social interaction, and community cohesion. Each theme elucidates the potential effects of various domains on public health and the mechanisms that underpin these effects.

1st Theme; Physical Health

The evaluated studies have distinctly highlighted the impact of outdoor recreation spaces on physical health. Multiple studies indicate that persons residing near or regularly

engaging with these locations demonstrate increased physical activity, accompanied by reduced obesity and cardiovascular disease rates (Lee et al., 2018). These findings underscore the capacity of outdoor recreation facilities to improve physical health by encouraging physical activity. Particularly, areas like parks and walking trails mitigate chronic disorders, such as obesity, diabetes, and cardiovascular diseases, by promoting consistent physical exercise. The cross-sectional and observational designs frequently used in these investigations limit the ability to establish causal linkages.

2nd Theme; Mental Health

Research indicates that engagement with nature can alleviate stress, enhance mood, and facilitate mental relaxation. Furthermore, regular utilization of these regions correlates with a decrease in mental health disorders, including depression and anxiety (Harris et al., 2023). The stress-alleviating benefits of natural environments, as well as their ability to provide mental respite, can improve people's overall quality of life. We must acknowledge the susceptibility of these studies' data collection methods, such as self-reports, to bias, which may limit the generalizability of the findings to larger groups.

3rd Theme; Social Interaction and Community Cohesion

Outdoor recreation spaces significantly enhance social contact among individuals and foster communal cohesion. Research indicates beneficial outcomes, including enhanced social support, community involvement, and the fortification of social connections through the utilization of these places (Young et al., 2022). Beneficial impacts on community cohesion and social integration have been noted (Walker et al., 2020). These findings underscore the social advantages of outdoor recreational spaces and illustrate their capacity to enhance community relationships. These settings, which facilitate social connection, can help prevent issues such as loneliness and social isolation. Nonetheless, most of these studies employed observational and qualitative methodologies, hence constraining the capacity to infer causal relationships. Future research must employ more rigorous and varied methodological strategies to enhance comprehension of the effects in this domain. In conclusion, the outcomes of this study indicate that outdoor recreation places positively influence physical, mental, and social health.

Recommendations

1. This study investigate the literature between 2018-2023.
2. It is predicted that future studies that make use of longitudinal approaches will provide a more in-depth comprehension of the effects that outdoor leisure spaces have on people.
3. We recommend conducting extensive and diverse additional research to investigate the effects on various population groups and geographical regions.
4. Furthermore, we recommend investigating the factors, including political and economic obstacles, that influence participation in outdoor recreation activities.

Ethical Declaration

The author has no commercial, financial, or personal relationship with the studies used in the review. The study's findings and conclusions are based solely on the data obtained and existing literature.

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