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Perspective

Urban Green Spaces and Healthy Living: A Landscape Architecture Perspective

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Abstract: This paper examines the essential role of urban green spaces in fostering healthy living from a landscape architecture perspective. Health goes beyond the mere absence of disease to include physical, mental, and social wellbeing, all of which are greatly enhanced by accessible green spaces. By synthesising existing literature, this paper shows that urban green spaces have strong positive associations with health outcomes, especially in urban settings where environmental stressors are pronounced. The paper stresses the importance of designing attractive and accessible green spaces that encourage physical activity, mental wellbeing, and social interaction, addressing public health issues such as obesity and mental health disorders. In addition to physical and mental health benefits, the paper explores the potential of local food production through edible green infrastructure, such as community gardens, which can significantly improve diet and nutrition. Additionally, the study discusses disparities in the access to quality green spaces, particularly between the Global North and South, and advocates for equitable design strategies that serve diverse populations. Integrating evidence-based approaches into landscape architecture, the paper argues for the establishment of urban green spaces as essential elements of public health infrastructure. Finally, the paper calls for future research and policy efforts to maximise the health benefits of urban green spaces and improve the quality of life in urban environments.

Keywords: physical health; wellbeing; green infrastructure; healthy communities; urban parks; community gardens; healthy green spaces

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1. Introduction

The concept of healthy living, as defined by the World Health Organization (WHO), encompasses a lifestyle that significantly reduces the risk of serious illness and premature mortality [1]. Although not all diseases are preventable, a significant proportion of deaths, particularly those caused by noncommunicable diseases like coronary heart disease and lung cancer, can be avoided through lifestyle changes [1]. This concept is based on the understanding that health is more than just the absence of disease; it also includes physical, mental, and social wellbeing [1]. In urban contexts, the integration of green spaces can play a key role in facilitating these dimensions of health [2].

Previous studies have demonstrated that exposure to green spaces can significantly influence health outcomes, which can be categorised into three distinct forms: direct contact, involving physical interaction with green environments; indirect contact, characterised by views of green spaces from windows; and incidental contact, referring to transient exposure while on the way to another destination [3,4]. These categories offer a useful framework for understanding the most commonly studied types of exposure, but they do not fully capture the broader range of benefits provided by green spaces. In addition to the direct health benefits, green spaces also provide valuable ecosystem services such as food production, air quality improvement, reducing urban heat islands, and stormwater management, as well as benefits linked to social interaction and community cohesion [5–7]. These broader benefits will be discussed within the context of this paper.

Urban green spaces, defined as publicly accessible urban and peri-urban open spaces that are either partially or entirely covered by substantial vegetation [8], including parks, gardens, playgrounds, urban wetlands, and community gardens, are more than just aesthetic additions to the built environment but are essential components of the green infrastructure that substantially improve the quality of life for urban residents [9,10].

Such spaces in urban areas have greater protective health effects compared to those of suburban or rural areas [11]. A review found that urban green spaces are more strongly associated with positive health outcomes, such as reduced cardiovascular issues, better birth outcomes, and lower mortality rates [11]. This could be because urban inhabitants confront more environmental hazards and stressors, and green areas help to buffer these difficulties more effectively in urban environments [11]. To encourage active lifestyles, urban dwellers clearly require easily accessible and attractive green spaces with various natural features [12]. At the same time, the goal of the public health community and city planners is to promote physical activity in order to improve people's health [12].

Access to green spaces offers numerous benefits for individuals across all age groups [10,13–16]. Research indicates that for the elderly population, such access can lead to significant health improvements by mitigating risks associated with chronic diseases and promoting overall wellbeing [13]. Engaging in regular physical activity within these green environments significantly reduces the health risks related to noncommunicable diseases [13]. Consequently, the health and quality of life of older adults necessitate the availability, accessibility, and consistent utilisation of urban green spaces [13].

To effectively design, manage, and plan urban green spaces, it is imperative to understand how and why residents engage with these environments [17]. Fongar et al. (2019) emphasised that the quality of green spaces is a significant factor influencing visitation, with higher quality ratings positively impacting usage [17]. The perceived distance has been identified as the primary determinant of visits, with individuals tending to frequent green spaces closer to their homes [17].

Additionally, the design and regular maintenance of these spaces can impact both their usage and perceptions of safety [18]. While the presence of green areas has the potential to reduce urban crime [18,19], these effects are enhanced by effective design and consistent maintenance [18].

However, disparities in the availability and quality of green spaces across communities persist [20–24].

According to Chen et al. (2022), cities in the Global South and North exhibit significantly different levels of exposure to green spaces [24]. Cities in the Global South are exposed to only one-third as much green space as their counterparts in the Global North. Specifically, in cities of the Global South, exposure inequality (Gini: 0.47) is nearly twice as high as in cities of the Global North (Gini: 0.27) [24].

Another study by Leng et al. (2023) assessed the effects of global disparities in urban greenspace exposure on the world's urban population from 2000 to 2020 [23]. They found that 49% of cities experienced an increase in non-tree vegetation, and over 90% displayed a growing trend in tree cover [23]. The growth of urban tree cover is particularly noticeable in regions with high latitudes, including Northern Europe and Eastern Russia. However, in the Global South, exposure to urban tree vegetation has significantly decreased, widening the gap between the North and the South [23].

Therefore, to address this inequity, policy and design strategies must be implemented to ensure that all communities have equitable access to healthy green spaces. This aligns with the Sustainable Development Goal of providing universal access to safe, inclusive, and accessible green and public spaces, particularly for women, children, older persons, and individuals with disabilities [25]. Instead of merely ensuring that green areas are accessible and usable, Kanav and Kumar (2024) emphasised that future research should focus on making them more attractive to vulnerable individuals [21].

Despite the significant potential of parks and green spaces to improve the quality of life [9,26], many have unfortunately faced neglect and deterioration [27]. Poorly maintained

parks can create a bleak atmosphere, marked by overgrown plants, litter, and damaged amenities, which detracts from community pride and obscures the positive aspects of urban life [27]. Factors such as reduced political support, weak policy frameworks, and diminished management expertise have all contributed to the decline of these vital spaces [27]. Furthermore, a slow response to the changing demands of diverse urban communities exacerbates the issue, as access to green spaces becomes increasingly critical for promoting health and wellbeing [27]. It is therefore important to understand what features of urban green spaces encourage and discourage outdoor activity, as this knowledge can inform population-level health strategy development and evidence-based green space design [28].

Addressing these challenges is essential to utilising urban green spaces to enhance public health outcomes and ensure equitable access to their benefits across all communities. Therefore, this paper examines the role of landscape architecture in designing attractive, biodiverse urban green spaces that provide multiple ecosystem services vital for healthy living, and further discusses issues of equity and accessibility as required by SDG 11.

2. Promoting Healthy Living Through Landscape Architecture

Access to some kind of nature has been seen as a basic human need throughout history and in many different cultures [29]. Beautiful, verdant, and well-irrigated landscapes have long been considered essential components of a perfect, healthful setting [29].

Ancient authors recognised that landscapes are important for our general wellbeing in addition to providing for our nutritional needs [29].

The history of landscape architecture is largely rooted in the aim of creating environments that enhance people's health and wellbeing [30]. This legacy can be traced back to the pioneering work of Frederick Law Olmsted [31,32]. His involvement with the United States Sanitary Commission during the Civil War demonstrated the fundamental link between the built environment and human health [31]. Olmsted's efforts to improve sanitation, create green spaces, and promote public wellbeing laid the foundation for future developments in the field [31].

Modern landscape architects continue to design sustainable and equitable communities, addressing issues such as climate change, access to nature, and social equity [30]. By utilising community-oriented design, they enhance both the aesthetic and functional qualities of spaces, promoting the quality of life [30]. Collaborating with various stakeholders, these professionals develop strategies that conserve essential natural resources, such as air, water, and soil, while integrating health considerations into master plans for residential, educational, and commercial projects [30]. Additionally, incorporating salutogenesis in landscape architecture enables design to function as an effective public health promotion tool and offers an alternative to conventional, pathogenic healthcare [33].

By bringing nature into the city and evoking biophilia, salutogenic design positions landscape architects as public health experts [33]. This is significant, as prevention is often considered more cost-effective than addressing the effects of widespread issues like illness, ageing, and climate change [33].

Moreover, landscape architects are increasingly adopting evidence-based approaches, akin to the evolution of medical practice from outdated concepts to rigorous methodologies [34–36]. Brown and Corry (2011) describe evidence-based landscape architecture as the systematic application of research to inform decision-making, allowing landscape architects to tackle contemporary environmental challenges effectively [36].

A relevant study by Olszewska-Guizzo et al. (2022) in Singapore explores specific features of urban green spaces that are associated with positive emotions, mindfulness, and relaxation [37].

This research identifies particular landscape elements that can inform the design of health-promoting urban green spaces [37]. Utilising the Contemplative Landscape Model (CLM), which evaluates urban landscapes based on seven criteria, the researchers analysed the responses of 74 healthy adults to various urban landscapes presented through videos and in natural settings [37]. The study revealed that higher CLM scores were

associated with increased self-reported positive emotions and brain activity related to mindfulness (Theta waves) and relaxation (Alpha waves) [37]. The presence of Archetypal Elements such as single trees, forests, and paths, was strongly correlated with feelings of Wakeful Relaxation. Additionally, the landscape features that showed the most significant associations included the Character of Peace and Silence, Layers of the Landscape, and Archetypal Elements [37]. These findings offer practical guidance for designing urban green spaces that support health and wellbeing [37].

By creating environments that promote active lifestyles and facilitate social interaction, landscape architecture can significantly contribute to public health [38]. The intentional design of green spaces supports healing and enhances the quality of life, addressing the physical, biological, social, and cultural needs of individuals and communities [35].

Stigsdotter (2015) [39] defines health design in landscape architecture as the development of green spaces that systematically support health processes, thereby improving health outcomes. This salutogenic perspective emphasises the strengths and capacities of users, regardless of their health status [34,39].

This paper asserts that prioritising the development of urban green spaces through effective landscape architectural practices is vital for enhancing healthy living in modern urban environments. With obesity emerging as a public health concern linked to sedentary behaviour and lack of physical activity [40], landscape architecture plays a vital role in creating spaces that promote physical health. By designing features such as outdoor gyms (Figure 1), walking loops, cycling paths, fitness zones, and recreational facilities, landscape architects can provide opportunities for all age groups and fitness levels to participate in physical activities. This encourages active lifestyles and mitigates health risks associated with sedentary urban living.

Figure 1. Outdoor gym installations that support physical activity in urban green spaces, with photographs from the 7th Brigade Park in Chermside, Queensland, Australia (**top**), and Seoul, Republic of Korea (**bottom**). (Images: Alessio Russo).

Attracting people to the outdoors is another way to improve physical activity in the community [38]. For instance, site furniture and furniture designs that use technology, such as QR codes, can encourage people to visit and improve their physical activity levels [38].

The incidence of obesity is influenced by extreme heat and restricted access to green spaces [41–43]. In local communities, higher obesity rates are associated with lower proximity to green spaces [41]. Conversely, access to these green areas promotes physical activity, wellbeing, and community cohesion [41]. An Australian study by Pritchard et al. (2024) examined the relationship between obesity, types of green space, and factors such as gender and household relocation [44]. It was found that living in areas with 20% or more tree canopy coverage was associated with lower probabilities of being overweight or obese for both sexes, with the effect being more pronounced in women [44]. The study demonstrated a non-linear relationship: the risk of being overweight or obese decreased rapidly with 20% tree canopy coverage and stabilised at around 30% [44]. These findings highlight the importance of increasing tree cover in cities and improving access to green spaces, particularly in underserved regions, where health disparities result from past discriminatory policies, such as 'redlining' (i.e., the denial of financial services to minority communities), and the underfunding of social infrastructure, which includes green spaces and community activities [41].

According to a systematic review on outdoor gym use, proximity to an outdoor gym seemed to affect utilisation, and there was some evidence that outdoor gyms could enhance fitness, physical activity, and other health-related outcomes [45]. Another review by Lee et al. (2018) found that local residents can engage in free, structured physical activity at outdoor gyms while simultaneously fostering social connections [46]. Jia et al.'s review examined the relationship between children's weight-related behaviours and outcomes and their access to green space [47]. The data indicated that children's weight status, body mass index (BMI), and television-watching time were negatively correlated with access to green space, while physical activity (PA) was positively correlated with green space access [47]. In ten investigations, the geographic information system (GIS) was utilised to determine the distance to the closest green space, which was frequently used to indicate access to that location [47]. Determining the precise relationship between BMI and access to green space remains challenging [47].

Additionally, research by Koohsari et al. (2015) indicates conflicting relationships between physical activity and several features of public open space, such as size, quality, and proximity [48]. These discrepancies make it more difficult to create precise, evidence-based recommendations for policymakers and urban planners on how to (re)design public open spaces to promote physical activity [48].

In addition to promoting physical activity, landscape architecture can provide green spaces for a daily dose of nature, which can benefit mental health [49,50]. The connection between mental health and access to blue and green spaces has been extensively studied in scholarly research [16,51–55], emphasising the significant influence that carefully designed urban landscapes can have on psychological wellbeing. By making green spaces equitable, accessible, and available to all individuals and population groups, we can ensure that everyone can benefit from the positive impact of nature on mental health [56].

Moreover, research has shown that greater amounts of green space in neighbourhoods are associated with improved mental health outcomes [57]. Therefore, increasing exposure to green space can be a valuable strategy for anxiety prevention [58]. Proximity to residential green spaces may also lower the risk of developing anxiety and depression [59].

Finally, by creating edible green infrastructure [60], landscape architecture can contribute to healthy living by giving people access to locally produced, safe, and nutritious food [61]. Health authorities are now beginning to provide funding for local and regional food programmes [61,62]. They are realising that healthy eating, exercise, and social interactions can have a great effect on both mental and physical health [61].

Studies worldwide and several literature reviews demonstrate that urban agriculture and edible green infrastructure offer multifunctional benefits beyond food production,

enhancing social capital, physical and mental health, nutrition, and food security, with commonly cited advantages including contributions to education, economic opportunities, health and wellbeing, and fostering active, cohesive communities [63–68].

In particular, community gardens (Figure 2), plots of land used by many urban dwellers to produce food and foster community cohesion, are becoming increasingly common in more developed nations [69,70]. They can offer fresh food access, opportunities to enjoy nature, and health benefits, as well as contribute to the wellbeing of the community by influencing the social and nutritional environment [69,71]. Beyond conventional fruit and vegetable production, modern community gardens also function as gathering places for a range of community activities [70].

Figure 2. Examples of community gardens situated in Queensland that provide fresh food, social benefits, and health advantages to local residents: (**left**) Brisbane and (**right**) Alexandra Headland. (Images: Alessio Russo).

Community gardens can also enhance a sense of place, pride, and belonging, associated with increased neighbourhood pride, social capital, and neighbourhood satisfaction, while lowering crime fears [72,73].

A study on community gardens in Flint, Michigan, revealed that the programmes offered opportunities for positive activities, community service, the development of interpersonal and relationship skills, informal social control, the exploration of cognitive and behavioural competence, and improved nutrition [73]. Community gardens improved the availability and consumption of nutritious meals while fostering the development of youth's assets [73].

A systematic review on community gardens and their impacts on diet, health, psychosocial wellbeing, and community benefits found that community gardening is linked to increased fruit and vegetable consumption, along with positive psychosocial and community outcomes [74]. Therefore, as a valuable setting for improving diets [75], community gardens can play a role in promoting a healthy diet, which is essential for optimal health [61]. Designing more community gardens has the potential to counter unhealthy diets associated with heart disease, stroke, and cancer [61,76–78].

3. Conclusions and Recommendations

This paper emphasises the critical role of landscape architecture in designing urban environments that support physical, mental, and social wellbeing. By creating accessible, inclusive, and attractive green spaces, landscape architects can encourage physical activity, enhance mental wellbeing, and improve nutrition through community-based food production [10,73]. Such spaces provide essential ecosystem services, such as pollution removal, cooling, runoff reduction, and fostering healthier lifestyles, which can cultivate a sense of community and reinforce community bonds [79–81]. Increasing neighbourhood green cover and ensuring equitable access to well-designed, multifunctional green spaces not only improves citizens' quality of life but also promotes better health and wellbeing, while simultaneously reducing healthcare costs [82,83].

However, the increasing prevalence of sedentary lifestyles, exacerbated by urbanisation and digital technology, presents a complex challenge [81,84].

To effectively combat these issues, a holistic approach is necessary. While green spaces can facilitate physical activity and social interaction, they must be complemented by efforts to shift cultural and societal norms. Additionally, community or 'systems-based' approaches are needed to promote healthier behaviours [81]. This includes promoting active lifestyles, as recommended by the World Health Organization's 2020 guidelines on physical activity and sedentary behaviour, reducing screen time, and encouraging the balanced use of digital technologies [85]. Research suggests that green spaces can mitigate the negative impacts of excessive screen time, particularly for young people [86]. In addition, a recent study in China provides robust evidence for the positive impact of greenways on reducing sedentary behaviour [87]. By analysing data from 1020 participants in Wuhan, the study found that the opening of the East Lake Greenway significantly reduced sedentary time, particularly for individuals living closer to the greenway [87]. This reduction was mediated by increased moderate-to-vigorous physical activity and walking time [87].

Therefore, improving accessibility to green spaces is essential for ensuring that urban environments are inclusive and supportive for all residents including vulnerable populations [21,88].

However, although the number of users of Mobility Assistive Devices is increasing, many urban settings still fall short in providing adequate accessibility [89]. Landscape architects, rehabilitative therapists, carers, and legislators have a critical role in dismantling these barriers to ensure that everyone can benefit from daily access to nature [90]. Green and blue spaces are especially vital for individuals with disabilities, as these environments significantly enhance physical and mental health, facilitate social interactions, and encourage community engagement [88]. A systematic review found that individuals with mobility impairments can benefit from various types of nature interactions, such as passive exposure, active participation, and rehabilitative interventions, in terms of their physical, mental, and social health [90].

While evidence suggests that urban green spaces contribute significantly to health and happiness [91], knowledge gaps remain regarding the specific qualities of urban green space that produce the most effective outcomes [92]. Factors such as the optimal location, exposure duration, design quality, and type of green spaces require further exploration to fully realise urban green spaces as public health, social, economic, and environmental assets [93]. Addressing these aspects could maximise the potential of urban green spaces in fulfilling Sustainable Development Goal (SDG) 11, which promotes inclusive, safe, resilient, and sustainable cities, particularly through enhancing access to green spaces for all residents [25].

Future research should prioritise developing robust landscape performance metrics to evaluate the health and environmental impacts of urban green spaces comprehensively, especially within underserved communities in the Global South. Additionally, comparative studies of urban green space policies and case studies focusing on landscape performance are necessary to identify best practices that can guide policy and planning in countries or cities where there is a lack of qualitative and accessible space, ensuring that urban green spaces are integral to achieving SDG 11, particularly for deprived and vulnerable communities [94].

As landscape performance becomes increasingly recognised, it highlights the varying benefits that different designs can offer, emphasising that effective landscape solutions are critical to achieving sustainability, liveability, and resilience in our communities [95]. By grounding design practices in evidence-based research, landscape architects can validate the multiple health benefits of their work, thus enhancing urban environments and promoting healthier lifestyles for all [95].

Although the connections between green spaces and health are well documented, this paper acknowledges some limitations. Much of the current evidence in this field

comes from cross-sectional or observational studies, which can only establish associations rather than causation [96]. Experimental evaluations, such as randomised controlled trials, are challenging to design in this context. Cohort interventions are more common, though their findings are sometimes limited by confounding variables [55]. Recent experimental methods, such as 'green prescription', are being explored to directly link green space interventions to health outcomes [97], but further studies are essential to strengthen causal claims.

Moreover, as Xie et al. (2024) observed, while existing research largely supports the positive association between green spaces and health, only a fraction of these findings can be deemed highly credible [98]. Better-designed primary studies and meta-analyses are necessary to identify stronger linkages that can guide health promotion strategies and inform evidence-based design [98]

Finally, this paper calls for policies and design strategies that prioritise the development of inclusive, health-promoting, biodiverse, and qualitative green spaces in urban areas as part of the public health infrastructure, while also avoiding the phenomenon of gentrification.

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