

Urban Greenness and Citizen Comfort: A Systematic Review of Environmental Health and Socio-Spatial Pathways in Urban Systems

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Abstract

This study synthesizes existing literature on the relationship between urban greenness and citizen comfort, focusing on environmental, health, and socio-spatial dimensions. Rapid urbanization has intensified environmental stressors such as urban heat islands, air pollution, and declining biodiversity, prompting increased attention to nature-based solutions. Using a systematic narrative review guided by PRISMA protocols, relevant studies published between 2000 and 2025 were analysed from interdisciplinary databases, including Web of Science, Scopus, PubMed, and Google Scholar. Findings reveal that urban green spaces such as parks, street trees, and green infrastructure play a critical role in mitigating environmental stressors while enhancing mental health, physical activity, and social cohesion. Evidence across regions, including the United States, Nigeria, and South Africa, demonstrates consistent associations between green space exposure and reduced stress, improved psychological well-being, and enhanced microclimate conditions. However, the benefits of urban greenness are highly context-dependent, with factors such as accessibility, quality, and maintenance significantly influencing outcomes. The review also identifies key methodological limitations, including the dominance of cross-sectional studies and insufficient representation of marginalized populations. It highlights the need for longitudinal and mixed-methods approaches to better understand long-term and equity-based impacts. Furthermore, participatory governance and inclusive planning are essential for maximizing the social and environmental benefits of green infrastructure.

Résumé

Cette étude synthétise la littérature existante sur la relation entre la verdure urbaine et le confort des citoyens, en mettant l'accent sur les dimensions environnementales, sanitaires et socio-spatiales. L'urbanisation rapide a intensifié les pressions environnementales telles que les îlots de chaleur urbains, la pollution de l'air et le déclin de la biodiversité, suscitant un intérêt croissant pour les solutions fondées sur la nature. À l'aide d'une revue narrative systématique guidée par les protocoles PRISMA, des études pertinentes publiées entre 2000 et 2025 ont été analysées à partir de bases de données interdisciplinaires, notamment Web of Science, Scopus, Pub-Med et Google Scholar. Les résultats montrent que les espaces verts urbains, tels que les parcs, les arbres d'alignement et les infrastructures vertes, jouent un rôle essentiel dans l'atténuation des pressions environnementales tout en améliorant la santé mentale, l'activité physique et la cohésion sociale. Les données empiriques issues de différentes régions, notamment des États-Unis, du Nigéria et de l'Afrique du Sud, révèlent des associations constantes entre l'exposition aux espaces verts, la réduction du stress, l'amélioration du bien-être psychologique et l'optimisation du

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microclimat. Cependant, les bénéfices de la verdure urbaine dépendent fortement du contexte, des facteurs tels que l'accessibilité, la qualité et l'entretien influençant significativement les résultats. L'étude met également en évidence des limites méthodologiques importantes, notamment la prédominance des études transversales et la sous-représentation des populations marginalisées. Elle souligne la nécessité d'approches longitudinales et mixtes afin de mieux comprendre les impacts à long terme et les enjeux d'équité. Enfin, une gouvernance participative et une planification inclusive sont essentielles pour maximiser les bénéfices sociaux et environnementaux des infrastructures vertes.

1. Introduction

The fast-paced urbanization around the world has brought cities a broad spectrum of environmental, social, as well as public health challenges and therefore interest in sustainable urban design and nature-based solutions has been growing. Urban green spaces such as parks, street trees, gardens and green corridors have become an integral part of sustainable and liveable cities due to their contribution in mitigating negative environmental impacts which are linked to climate change and uncontrolled urban population growth. Urban green infrastructure plays a pivotal role in lowering the urban heat island effect by habitability by decreasing the surface and air temperature through shading & evapotranspiration; improving air quality by air polluting goods; & by carbon sequestration in urban setting in terms of carbon sequestration (Zhao et al., 2025; Politeknik et al., 2024). Beyond environmental benefits, green spaces also support public health and human well-being through physical activity, stress reduction and cardiovascular risk reduction, as well as psychological and social well being; there are associations between urban nature-associated well-being and reducing the risk of depression, anxiety, and/or chronic disease (Shanahan et al., 2015).

Within the bounds of this review, "urban greenness" describes the existence and the quantity of vegetation and natural features that spread across the city's landscape, including diverse forms including parks, street trees, community gardens, green roofs, green walls, and other items that comprise urban green infrastructure. Urban greenness is conceptually related to the systematic integration of natural and semi natural vegetation to urban environments, as well as forming a functional network which will provide ecosystem services, including climate regulation, air quality improvement, and recreational opportunities, which are important for improving urban sustainability and human well-being (Yao et al., 2025). The evaluation and quantification of urban greenness are frequently done through the quantification of vegetated space and captive evaluation of ecosystem services, as in remote sensing (e.g. improved vegetation cover indices, proximity to green space, qualitative frameworks like assessment of green infrastructure contribution to ecosystem function, human benefits; e.g. Kumakoshi et al 2020). These approaches emphasize the total contribution of various forms of urban vegetation and green infrastructure to its ecological functioning and quality of the urban environment.

"Citizen Comfort," as used in this review, is understood as a complex notion that deals with the different dimensions by which urban people perceive well-being and satisfactions within their context. This includes, but is in no way limited to: psychological well-being (e.g., reduced stress levels, heightened positive mood), physical health benefits (e.g., opportunities for physical activity, enhanced air quality), thermal comfort (e.g. cooling effects of vegetation), and social cohesion (e.g., facilitating community interaction and a sense of belonging) (Xu et al, 2025; van den Bosch & Sang, 2017).

The nature of the study of urban greenness and its influence on the comfortability of citizens means that insights are drawn from a large number of academic disciplines. This includes the environmental humanities that address the cultural and philosophical aspects of human relationships with the environment, urban planning which addresses the design and management of human settlement, public health that deals with the health outcomes which relate to environmental issues, and various social sciences (such as sociology, psychology), which deals with social behaviors, perceptions, and community dynamics in the human settlement (Andersson et al., 2019; Haq, 2011; Kabisch et al., 2015). This broad interdisciplinary approach is critical for the holistic understanding of a complex relationship; as urban green spaces are interrelated with the human experience in the cities. The increasing number of studies on urban greenness and the health of urban dwellers brings the need for a systematic synthesis of available knowledge. Although there is a plethora of research confirming the benefits of green infrastructure, current knowledge is dispersed, especially concerning the impact of various types of green spaces on various aspects of citizen comfort in a variety of urban settings. Inconsistencies in definitions, research design, and findings have further contributed to gaps in clarity such as the long-term societal impacts and equitable distribution of these benefits.

This gap in consolidated, cross-disciplinary knowledge presents a significant challenge for both researchers and urban policymakers seeking evidence-based guidance. Accordingly, this review asks: To what extent does urban greenness contribute to citizen comfort, and what gaps in current research limit our understanding of this relationship across diverse urban contexts? To address this question, this review systematically synthesizes existing empirical and theoretical literature, identifies prevailing themes and emerging research directions, critically evaluates methodological approaches, and proposes avenues for future inquiry- all in service of advancing more sustainable, equitable, and human-centered urban planning.

2. Literature review

Urban greenness is understood as a multifaceted construct that includes both the physical attributes of the built environment such as parks, street trees, and green roofs as well as the perceived aspects that contribute significantly to human well-being. Previous research emphasizes that conventional measures of urban greenness have historically focused on quantifying physical green elements. These are typically assessed through land use inventories and Geographic Information System (GIS) data, which offer valuable insights into the spatial distribution and availability of green spaces (Baro et al., 2016; Kabisch et al., 2015). For instance, GIS technologies allow urban planners to map green spaces efficiently and analyse their relationship with urban infrastructure.

Recent advancements in remote sensing technologies, particularly the application of vegetation indices like the Normalized Difference Vegetation Index (NDVI), have revolutionized how urban greenness is quantified. These technologies enable researchers to perform large-scale and objective measurements of green cover, thereby facilitating a comprehensive assessment of urban vegetation across vast areas (Yu & Dida, 2023; Mahmood & Al-Rawe, 2023). This innovative approach not only enhances the accuracy of assessments but also allows for continuous monitoring of green space changes over time.

However, despite the robustness of these quantitative measures, they inherently lack the ability to capture the subjective and qualitative dimensions associated with perceived greenness. Perceived greenness encompasses factors such as ecological quality, biodiversity, and the aesthetic contribution that green spaces provide, which are crucial for understanding their true impact on human well-being. Recent literature underscores the importance of integrating diverse data sources including remote sensing, ecological assessments, and social surveys in order to construct a more holistic understanding of urban greenness and its effects on both physical and perceptual dimensions (Ang et al., 2020; Akbar et al., 2019). By adopting a mixed-methods approach, researchers can better appreciate how various elements of green spaces interact to influence overall urban well-being.

Furthermore, it is essential to consider that the benefits derived from green spaces are not solely contingent upon their physical existence. The accessibility of these spaces, their ecological integrity, and the perceptions of residents play critical roles in determining the extent to which green areas can enhance urban life. For instance, equitable access to urban greenery can dictate how effectively different populations benefit from these spaces, reinforcing the notion that the presence of green areas is just one part of a much larger equation.

Additionally, citizen comfort in urban spaces is a complex and multi-dimensional concept. It encompasses psychological, physical, social, and environmental factors that intertwine to impact residents' experiences. Psychological benefits associated with green space exposure such as stress relief, mood enhancement, and cognitive restoration are well documented and illustrate the profound connection between nature and mental health (Hartig et al., 2014; Bratman et al., 2019). These benefits are particularly critical in urban contexts, where individuals may experience heightened stress levels due to the fast-paced environment and often overwhelming stimuli present in city life.

Moreover, physical health advantages arise from green spaces by providing residents with opportunities for physical activity, aiding in the prevention and reduction of chronic diseases (Kardan et al., 2015; Wolch et al., 2014). Urban parks and green corridors not only encourage an active lifestyle but also promote social interactions, which are vital for creating resilient communities. Thermal comfort, influenced by the shading provided by the trees and vegetation, enhances the usability of outdoor spaces and safeguards public health, especially in the context of urban heat islands exacerbated by climate change (Santamouris et al., 2018; Bowlwr et al., 2010).

Social cohesion and perceived safety are also significantly determinants of comfort and usage of green spaces. Research indicates that poorly maintained or perceived unsafe green spaces tend to repel usage and diminish the potential health benefits these spaces can offer (Lee & Maheswaran, 2011; Hartig et al., 2014). The design quality and inclusive nature of urban green spaces directly influence how different demographics interact with these environments, thereby affecting overall community resilience and wellbeing (Lee & Maheswaran, 2011). A well-designed green area that accommodates diverse populations fosters a sense of belonging and ownership, leading to increased community engagement and social capital.

To further understand the complex relationship between urban residents and green spaces diverse interdisciplinary approaches are employed. Environmental humanities, for instance, prioritize the cultural and emotional connections that individuals have with natural environments. By examining how green spaces contribute to meaning, memory, and identity, these approaches elucidate the intricate ways that place attachment and sense of place manifest in urban settings (Schliephake, 2014; Relph, 1976). This cultural perspective enriches the discourse on urban greenness, emphasizing its role not just a physical resource but as a vital contributor to societal well-being.

Urban sociology and environmental justice research critically investigate the inequalities surrounding access to green spaces, particularly concerning socioeconomic disparities. This field focuses on the unequal distribution of green resources and their ramifications for health outcomes, community integration, and social inclusion (Wolch, Byrne & Newell, 2014; Tuhkanen et al., 2025). This research highlights the necessity of addressing these inequities to ensure that urban greening efforts effectively benefit all community members, particularly those from marginalized backgrounds.

Additionally, psychological theories such as Attention Restoration Theory (ART) and Stress Recovery Theory (SRT) collectively illustrate how interactions with nature-based environments foster mental recovery and alleviate stress in urban settings (Kaplan & Kaplan, 1989; Ulrich et al., 1991). Understanding these psychological processes is crucial for designing urban environments that promote mental well-being.

Cultural studies offer further insights into the social value of green spaces, emphasizing the historical and contextual narratives that shape local identities and facilitate a sense of community belonging. These studies demonstrate that urban greenness is more than aesthetic or environmental asset; it serves as a cultural touchstone that influences community dynamics, social practices, and collective identity (Relph, 1976; Samus et al., 2022).

Lastly, the diverse theoretical frameworks and conceptualizations surrounding urban greenness facilitate a comprehensive understanding of its implications for human well-being. By integrating various perspectives from environmental sociology to psychological studies in which researchers can advocate for more equitable, culturally sensitive, and effective urban greening policies that recognize the complexity of urban ecosystems and the multifarious needs of residents. This multifaceted approach underscores the vital role of urban greenness as a mediator of human well-being, equity, and collective identity.

3. Methods

3.1. Study Design

This study adopted a systematic narrative review approach to synthesize exiting empirical and theoretical literature on the relationship between urban greenness and citizen comfort. The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure transparency, reproducibility, and methodological rigor in the identification, screening, and inclusion of relevant studies.

3.2. Search Strategy and Databases

A comprehensive literature search was conducted across multiple peer-reviewed academic databases, including Web OF Science, Scopus, PubMed, Google Scholar, and the Environment Complete database via EBSCOhost. These databases were selected for their broad interdisciplinary coverage spanning environmental science, urban planning, public health, and the social sciences- all of which are central to the scope of this review. Grey literature sources, including reports from the World Health Organization (WHO), the United Nations Environment Programme (UNEP), and urban planning policy documents, were also consulted to supplement peer-reviewed findings and capture practice-based evidence.

3.3. Search Terms and Keywords

The database searches were conducted using a combination of controlled vocabulary terms and free-text keywords structured around three conceptual domains: urban greenness, citizen well-being, and urban environments. The primary search string employed was: (*“Urban green space” OR “urban greenness” OR “green infrastructure” OR “urban vegetation” OR “parks” OR “street trees” OR “green roofs”*) AND (*“citizen comfort” OR “well-being” OR “mental health” OR “physical health” OR “thermal comfort” OR “social cohesion” OR “quality of life”*) AND {*“urban” OR “city” OR “urban planning” OR “sustainable development”*}

Boolean operation (AND, OR) were applied to broaden or narrow results as appropriate. Searches were conducted in English, and no language restrictions were imposed on the initial search phase; however, only studies published in English were included in the final analysis due to translation feasibility constraints.

3.4. Inclusion and Exclusion Criteria

Studies were screened against a predefined set of inclusion and exclusion criteria to ensure relevance and methodological quality. Studies were included if they: (i) were published in peer-reviewed journals or credible institutional reports; (ii) focused on urban green spaces in any urban or peri-urban setting; (iii) examined at least one measurable dimension of citizen comfortability, including psychological well-being, physical health outcomes, thermal comfort, or social cohesion; and (iv) were published between 2000 and 2025, to capture contemporary urbanization trends while allowing for a sufficiently broad evidence base. Studies were excluded if they: (i) focused exclusively on rural or natural wilderness environments with no urban relevance; (ii) lacked empirical data or theoretical groundings; (iii) were duplicates retrieved across multiple databases; (iv) were conference abstracts, opinion pieces, or editorials without substantive methodological content.

3.5. Study Selection Process

The study selection followed a three stage screening process. In the first stage, title and abstract of all retrieved records were screened for relevance against the inclusion criteria. In the second stage, full text of potentially eligible studies were retrieved and assessed in detail. In the third stage, reference lists of the included studies were manually reviewed to identify any additional relevant sources not captured in the initial database search – a process commonly

referred to as backward citation chaining. At each stage, decisions were documented and discrepancies were resolved through re-evaluation against the established criteria.

3.6. Data Extraction and Synthesis

Data were extracted from the included studies using a standardized extraction framework capturing the following information: author(s) and publication year, study location and urban context, study design and methodology, type of green space examined, outcome measure related to citizen comfort, key findings, and identified limitation. Given the heterogeneity of study designs, populations, and outcome measure across the included literature, a qualitative narrative synthesis was employed as the primary method of data integration. This approach allowed for thematic organization of findings across the multiple dimensions of citizen comfort, while acknowledging the variability in methodological approaches that precluded a formal quantitative meta-analysis.

3.7. Quality Assessment

The methodological quality of the included studies was assessed using adapted versions of established critical appraisal tools appropriate to each study design. Quantitative studies were assessed using the Newcastle-Ottawa scale (NOS) while qualitative studies were evaluated using the Critical Appraisal Skills Programme (CASP) checklist. Review article were assessed using the AMSTAR-2 (A Measurement Tool to Assess Systematic Reviews) framework. Quality scores informed the weight attributed to individual studies during the synthesis process, with higher-quality evidence prioritized in drawing conclusions, though no studies were excluded solely on the basis of quality ratings.

4. Results

Research indicates that urban green spaces significantly influence mental health across various regions. In the United States, access to urban parks has been linked to reduced stress levels and various enhanced psychological resilience (Barton & Pretty, 2017; Callaghan, 2021). In Nigeria, exposure to urban green infrastructures correlates positively with mental wellbeing, enhancing mood and psychological health (Dipeolu, Ibem & Fadamiro, 2021; Dipeolu, 2025). Similarly, urban greening initiatives in South Africa have demonstrated benefits including improved cognitive functioning and emotional well-being (Struwig et al., 2024). Crucially, studies establish that visual access to greenery is associated with mental health improvements such as stress reduction (Beute, de Kort, & IJsselstein, 2023). Also, a lack of green space access correlates with heightened stress and diminished well-being, particularly in urban Nigerian areas (Dipeolu, 2025).

Urban green infrastructure globally enhances air quality, reduces noise pollution, and mitigates urban heat island effects. For instances, urban parks in the USA contribute to cleaner air and improved physical health by promoting activities that lower chronic disease risk (Kondo et al., 2018). In Lagos, green spaces serve as natural barriers against air pollution and heat, yielding critical health benefits amid rapid urbanization (Dipeolu et al., 2021).

Figure 1 presents an integrated conceptual framework illustrating the pathways through which urban green spaces such as parks, vegetation, and green infrastructure affect urban residents' well-being. The framework highlights three primary dimensions: (1) mental health benefits (e.g., stress reduction, improved mood, and cognitive functioning), (2) environmental and physical health benefits (e.g., improved air quality), and (3) social and community benefits (e.g. enhanced social interaction, cohesion, and inclusion). It further identifies key enabling factors, including accessibility, quality of green spaces, and policy/governance structures, which moderate these relationships. The model demonstrates how these interconnected pathways collectively contribute to improved mental well-being, better physical health outcomes, stronger social cohesion, and the development of healthier, more liveable, and sustainable urban environments.

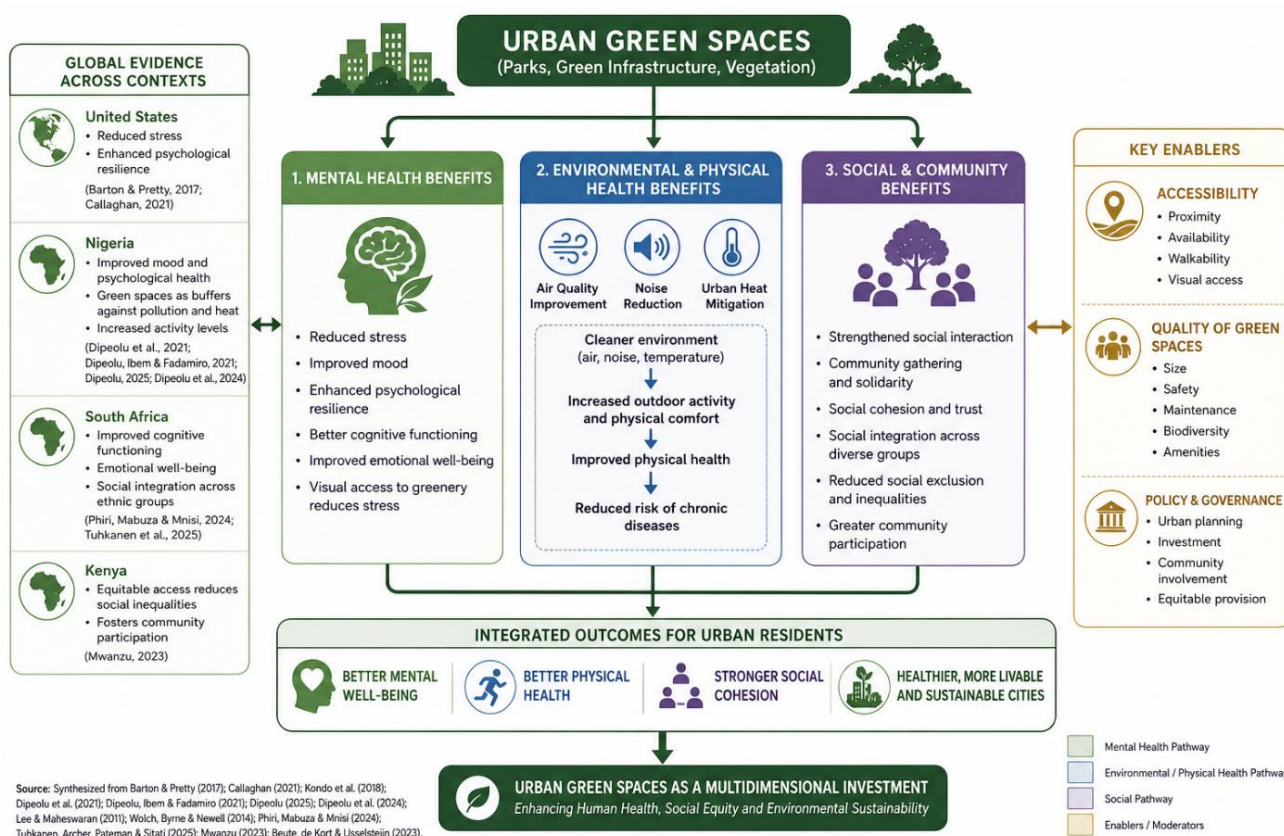


Figure 1. Pathways through which Urban Green Spaces Influence Environmental Quality, Health, and Social Cohesion (Source: Author, 2026)

AI Prompt: Design a professional infographic diagram showing how Urban Green Spaces (parks, green infrastructure, vegetation) influence three outcome pathways: Mental Health Benefits, Environmental & Physical Health Benefits, and Social & Community Benefits. Include supporting global evidence from different countries, key enablers (accessibility, quality of green spaces, policy/governance), and show how all pathways converge into integrated outcomes; better mental well-being, physical health, social cohesion, and sustainable cities. Use a clean academic style with a color-coded legend.

Similar trends are observed in Southern Africa, where vegetation has been shown to cool ambient temperatures, enhancing microclimate comfort (Tuhkanen, Archer, Pateman, & Sitati,

2025). Accessibility to green spaces correlates with increased physical activity levels and perceived health benefits among urban residents (Dipeolu et al., 2021).

Furthermore, parks function as essential social hubs that foster community interaction and social cohesion. Evidence from American cities indicates that parks particularly promote social connections among marginalized populations (Lee & Maheswaran, 2011; Wolch, Byrne, & Newell, 2014). In Nigeria, community green spaces facilitate gathering and solidarity among residents (Dipeolu, Taiwo, & Adebara, 2024). South African greening initiatives enhance social integration across diverse ethnic groups, addressing issues of social exclusion (Tuhkanen et al., 2025). Studies from Kenya emphasize how equitable access to green spaces reduces social inequalities and fosters community participation (Mwanzu, 2023).

5. Discussion

This synthesis reaffirms significant findings regarding the multifaceted benefits of urban greenness on citizen comfort. Green spaces contribute to addressing pressing environmental challenges associated with urbanization, such as urban heat islands, air pollution, and biodiversity loss. Well-designed green infrastructures mitigate environmental stressors while promoting physical activity, reducing stress, and enhancing social cohesion. Moreover, urban greenness contributes positively not only to ecological sustainability but also to cultural identity and social justice, reflecting a comprehensive understanding of its impact on community well-being.

While the evidence supports the various benefits of urban greenness, inconsistencies exist in the findings, particularly in different socio-economic and cultural contexts. For instance, variations in the quality and maintenance of green spaces significantly influence their perceived benefits, as seen in Nigeria where poorly maintained parks yield poorer well-being outcomes (Dipeolu, 2025). Additionally, debates around the types of green infrastructure highlight the need for context-specific research that embraces the complexity of these environments.

To address methodological limitations, including insufficient representation of marginalized populations and the reliance on cross-sectional studies, the adoption of longitudinal designs and mixed methodologies is essential. Such approaches can offer a more nuanced understanding of the long-term impacts of green spaces on various urban demographics. Moreover, enhancing participatory approaches in governance and planning can foster inclusivity, empowering communities to reduce health inequalities and facilitate social empowerment.

Table 1. Synthesis of the Multi-dimensional Benefits and Determinants of Urban Greenness
(Source: Author 2026)

Theme	Core Insight	Key Outcomes	Implications
Environmental Benefits	Urban green spaces mitigate urbanization stressors	Reduced urban heat island effects; improved air quality; biodiversity conservation	Supports climate resilience and ecological sustainability
Health & Well-being	Green infrastructure enhances physical and mental health	Stress reduction; increased physical activity; improved psychological well-being	Promotes healthier urban populations

Social & Cultural Value	Green spaces foster community interaction and identity	Social cohesion; cultural identity; social justice	Strengthens inclusive and livable communities
Contextual Variability	Benefits vary across socio-economic and cultural contexts	Poor maintenance reduces effectiveness (e.g., Nigeria)	Need for context-specific design and management
Green Infrastructure Quality	Quality and accessibility determine outcomes	Well-designed spaces: positive outcomes; poorly maintained: limited benefits	Emphasis on planning, maintenance, and equity
Methodological Gaps	Current studies have limitations	Underrepresentation of marginalized groups; reliance on cross-sectional data	Need for longitudinal and mixed-methods research
Governance & Inclusion	Participatory planning enhances outcomes	Community empowerment; reduced inequalities	Inclusive governance improves sustainability

The Table 1 provides a structured synthesis of the literature on urban greenness by organizing key insights into thematic domains, associated outcomes, and broader implications for urban development and policy. It demonstrates that urban green spaces play a multidimensional role in shaping environmental quality, human health, and social systems.

The first three themes that is environmental benefits, health and well-being, and social and cultural value capture the core contributions of urban greenness. Environmentally, green spaces mitigate major urban stressors such as heat islands, air pollution, and biodiversity loss, thereby enhancing ecological sustainability and climate resilience. From a health perspective, they promote physical and mental well-being through mechanisms such as increased physical activity, stress reduction, and improved psychological functioning. Socially, green spaces act as platforms for interaction, strengthening social cohesion, reinforcing cultural identity, and advancing social justice within communities.

The table further highlights contextual variability, emphasizing that the benefits of urban greenness are not uniform, but depend heavily on socio-economic and cultural conditions. For example, in the contexts like Nigeria, poorly maintained or in accessible green spaces, may limit or even negate expected well-being outcomes. This links closely to the theme of green infrastructure quality, which underscores the importance of design, accessibility, safety and maintenance in determining the effectiveness of green spaces.

In addition, the table identifies critical methodological gaps in existing research, particularly the overreliance on cross-sectional studies and the limited inclusion of marginalized populations. These gaps point to the need for more robust approaches, including longitudinal and mixed-methods designs, to better under long term and differentiated impacts.

Finally, the governance and inclusion dimension highlighted the role of participatory planning and equitable distribution of green spaces in enhancing outcomes. Inclusive governance frameworks can foster community empowerment, reduce social and health inequalities, and support more sustainable resilient urban systems. Lastly, Table 1 illustrates that urban greenness is not merely an environmental asset but a complex, context-dependent system whose full benefits are realized through quality design, inclusive governance and robust research approaches.

6. Conclusion

In summary, this review presents a comprehensive examination of the relationship between urban greenness and citizen comfort, emphasizing the multifaceted benefits that green spaces provide. The findings highlight the capacity of urban greenness to address environmental issues associated with rapid urbanization while enhancing physical, psychological, and social well-being. Importantly, this review underscores the necessity of holistic and context-sensitive solutions that prioritize ecological sustainability, social justice, and community involvement. This study contributes valuable insights to the fields of environmental humanities, urban planning, and social science, offering a nuanced understanding of how urban greenness impacts citizen comfort and well-being. By integrating diverse methodological approaches and championing equity-focused planning processes. Future research can pave the way for more inclusive and effective urban greening strategies that foster healthier and more vibrant communities. Lastly, this transition toward greener urban spaces holds the potential to combat climate challenges and advance sustainable urban development in a manner that enriches social cohesion and ecological resilience.

Author contributions

- The author conceptualized the paper, searched for and downloaded the articles, and conducted the title and abstract screening, full-text review, and data extraction.
- The author interpreted the data and drafted the paper. The author read and approved the final version of the paper for submission.

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Use of generative AI

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Conflicts of interest

The author declared no competing interests.

Data Availability Statement

No new datasets were generated during the current study. All data analyzed in this review were extracted from previously published studies, which are cited within the manuscript and listed in the reference list. Readers can access the original data through the cited sources.

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