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Integrating Social and Therapeutic Models in Public Space Design: A Narrative Review Approach to Meeting the Needs of All Types of Disabilities

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Abstract

This research examines the integration of the social and therapeutic models of disability within public space and landscape design, aiming to address the gaps in current practices. While the social model focuses on removing societal and environmental barriers to promote accessibility, the therapeutic model emphasizes enhancing individual well-being through natural environments. Both models have been extensively studied in isolation, but their combination remains underexplored. This paper provides a comprehensive narrative review, demonstrating the potential for synthesizing these paradigms to create spaces that are both inclusive and therapeutic. Using interdisciplinary insights from urban planning, architecture, and health sciences, this study presents a framework for designing public spaces that foster accessibility, social inclusion, and holistic well-being. Through the analysis of case studies, the research highlights innovative design strategies that support the mental, physical, and emotional needs of diverse users, advocating for a more holistic approach in public space design. The findings underscore the importance of integrating accessibility and therapeutic principles to enhance the overall quality of life for all users.

Keywords

Social Models, Therapeutic Models, Inclusive Park, Needs of Disabilities

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Introduction

In public space and landscape design, research often focuses on the social model of disability, which aims to dis-mantle societal and environmental barriers to promote inclusivity. Scholars have made significant strides in creating spaces that enhance accessibility and participation for individuals of all abilities. Meanwhile, the Therapeutic Model of Disability centers on enhancing well-being through interventions, particularly emphasizing the health benefits of natural environments. These two models, however, are rarely integrated. The lack of research combining the social and therapeutic models in public space design reveals a significant gap. Public spaces may be accessible or therapeutic but not optimized to address the holistic needs of all users. Integrating these models offers an opportunity to create spaces that are both inclusive and therapeutic, promoting well-being for individuals and communities.

Inclusive public space design must address the diverse needs of individuals with disabilities, encompassing visual, hearing, physical, intellectual, learning, autism spectrum disorders, emotional, and multiple disabilities. Each category presents unique challenges that require tailored interventions, such as tactile pathways and braille signage for visual impairments, adaptive equipment for physical disabilities, and sensory-controlled environments for individuals with autism. By incorporating inclusive and therapeutic features into public spaces, designers can foster accessibility, independence, and social integration, ultimately enhancing physical and psychological well-being for all users.

The social model, conceptualizing disability because of societal barriers (Oliver, 1900, advocates for removing obstacles such as inaccessible architecture and societal attitudes. The therapeutic model, in contrast, emphasizes individual health and well-being through medical and therapeutic interventions (World Health Organization., 2001). Both models are crucial for enhancing quality of life, yet their separation in public space design limits the potential for truly inclusive environments.

Public spaces play a key role in urban life by promoting engagement, physical activity, and well-being. Inclusive design addresses physical, sensory, and cognitive barriers, while therapeutic design incorporates elements like natural landscapes and accessible pathways to enhance health and social interaction. Empirical evidence shows that well-designed spaces can alleviate stress, improve mental health, and foster social cohesion (Sullivan, 2001).

Synthesizing the social and therapeutic models can create public spaces that are not only accessible but also conducive to well-being, addressing the broader social, physical, and emotional needs of users. This integrated approach aligns with growing

recognition of the importance of mental and emotional health in public health discourse (Maller et al., 2006), offering innovative design solutions that elevate quality of life.

The fusion of these models can inspire the development of public spaces that are both inclusive and healing. Such spaces not only provide physical access and mobility but also promote social interaction, mental relaxation, and emotional well-being. By addressing the full spectrum of needs, these public spaces can become vibrant, supportive environments that contribute to the overall health and happiness of the community.

This research aims to provide a review and synthesize these paradigms into a comprehensive design framework, leveraging interdisciplinary insights from urban planning, architecture, and health sciences. By doing so, the study seeks to address the complex needs of all users, ensuring that public spaces are physically accessible, socially inclusive, and conducive to holistic well-being. Grounded in a critical review of literature and case studies, the goal is to revolutionize public spaces into vibrant environments that enhance the physical, mental, and social health of the community.

Research Methodology

This research article followed established guidelines for conducting a comprehensive narrative literature review within the framework of the Social and Therapeutic Models of disability in the context of public space design. The researchers defined the search topic specifically as "Social and Therapeutic Models of disability in public space design" and employed a systematic approach to build the search design. Key concept terms guided the search: (1) urban public spaces, particularly those designed for people with disabilities, (2) terms related to disability, such as 'disabled' and 'inclusive,' (3) the Social Model of Disability, and (4) several therapeutic frameworks, including the Biopsychosocial Model, the Person-Centered Therapy Model, and the Environmental Psychology Model. To ensure inclusivity, plural forms were applied to relevant nouns during the search process.

The literature review was conducted using two major academic databases—Scopus and Google Scholar—accessed through their respective online search engines. Initially, the search was restricted to literature published within the last decade to focus on the most recent developments. However, given the article's concentration on a specific population, the initial results yielded a limited number of relevant documents, both in terms of quantity and quality. Consequently, the researchers extended the search timeframe to cover the last two decades. Any documents published before 2003, or

those that were non-English or lacked relevance to the topic, were systematically excluded from further consideration.

After refining the search, only those documents that closely aligned with the article's objective were selected for deeper analysis. This selection process involved an initial re-view of abstracts and conclusions to determine relevance. Documents were chosen based on the expertise of the researchers and their disciplines, which spanned fields such as human factors in medical engineering, interdisciplinary health sciences, landscape architecture, and built environment design. Once the most pertinent documents were identified, they underwent manual review and were subsequently organized using a framework analysis technique to ensure a structured and in-depth exploration of the relevant literature. This rigorous methodology ensured that the article was supported by a robust and interdisciplinary foundation of research.

As a result of the literature review, themes and sub-themes were categorized into a conceptual framework: "designing for inclusivity and accessibility; evidence of the benefits of public spaces tailored for individuals with disabilities (on a societal, community, and personal level); and strategies for creating inclusive urban environments (enhanced accessibility, universal design principles, and social integration)." Additionally, the research highlighted areas for further development, including "establishing design standards, raising public awareness about inclusive design, and proposing potential directions for future research on integrating the Social and Therapeutic Models of Disability into public space design." In conclusion, this article incorporated a diverse range of sources and document types, including peer-reviewed original research and review articles from aca-demic journals, electronic books, book chapters, conference proceedings, gray literature, reports, and other relevant materials (as illustrated in the accompanying figure).

The methodological framework of this study extends to examining how the Social and Therapeutic Models of disability can address the diverse needs of individuals across seven primary disability types: visual, hearing, physical, intellectual, learning, autism spectrum disorders (ASD), and emotional or behavioral disabilities. Through a structured review of the literature and case studies, this research analyzes how each model—Social, Biopsychosocial, Person-Centered Therapy, and Environmental Psychology—can be applied to design interventions that cater to the unique challenges of these disabilities. For instance, the Social Model emphasizes removing systemic barriers, such as inaccessible layouts, to ensure equity, while therapeutic models incorporate healing elements, such as sensory-controlled environments and adaptive equipment, to enhance individual well-being. This integrated approach evaluates how

public spaces can simultaneously meet accessibility requirements and foster therapeutic outcomes, offering a comprehensive strategy for inclusive and supportive design.

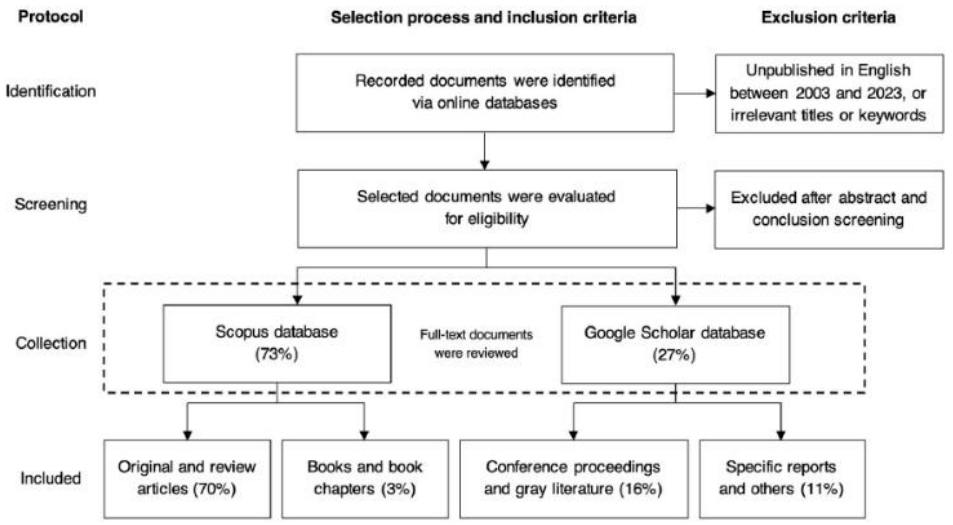

Figure 1 A flow diagram showing the literature search and selection process.
Source: Author's analysis (2024).

Meeting the Diverse Needs of Disabilities in Inclusive Park Design

Inclusive Park design must address the diverse needs of individuals with disabilities, categorized into eight main types: visual, hearing or communication, movement or physical, intellectual, learning, autism spectrum disorders (ASD), emotional or behavioral, and multiple disabilities. Each category presents unique challenges and requires specific interventions. Individuals with visual impairments, ranging from partial vision loss to blindness, benefit from features like tactile pathways, braille signage, and assistive tools such as guide dogs or magnifiers to enhance navigation and spatial awareness. Similarly, those with hearing or communication disabilities, including deafness and speech disorders, require visual aids, tactile communication tools, and accessible zones for sign language to facilitate interaction.

For movement or physical disabilities, caused by conditions like spinal cord injuries, cerebral palsy, or arthritis, the emphasis lies on providing wheelchair-accessible pathways, ramps, and adaptive equipment that ensure safe and unrestricted mobility. Individuals with intellectual disabilities, characterized by limitations in cognitive functioning and adaptive behavior, benefit from clear signage, structured activities, and supportive social environments that foster communication and independence. Those with

learning disabilities, such as dyslexia and dyscalculia, require specialized learning environments equipped with tailored resources to accommodate cognitive challenges.

The Social Model's focus on removing physical and systemic barriers also extends to the aging population, whose mobility and spatial needs are often overlooked in conventional urban planning. A study conducted in Rangsit Municipality assessed the physical appropriateness of the built environment for elderly residents and identified key criteria such as walkability, safety, legibility, and access to communal facilities (Kositwattanarerk et al., 2022). While this work strongly aligns with the Social Model's emphasis on equitable spatial access, it reveals a limited engagement with the psychological and emotional needs of older adults. Incorporating therapeutic design principles—such as sensory gardens, shaded resting nodes, and emotionally calming environments—could expand these age-friendly interventions into truly inclusive public spaces that address both accessibility and well-being.

Autism spectrum disorders, often associated with sensory sensitivities and communication difficulties, necessitate sensory-controlled environments with predictable layouts and calm zones to reduce overstimulation. Emotional or behavioral disabilities, including conditions like depression, anxiety, and PTSD, call for quiet, therapeutic spaces designed to support emotional regulation and mental health. Lastly, individuals with multiple disabilities—combinations of sensory, motor, or cognitive impairments—require comprehensive and integrated design solutions to meet their complex needs.

Physical activity plays a crucial role in improving the health and mobility of people with disabilities. Recommendations include aerobic exercises to enhance cardiovascular health, strength training for muscle development, flexibility exercises to improve joint range of motion, and balance training to enhance stability. These exercises, tailored to individual capabilities, are integral to fostering physical and psychological well-being in inclusive park environments. By addressing these diverse needs through intentional and inclusive design, public spaces can promote accessibility, independence, and social integration for all individuals.

The Social Model of Disability

The Social Model of Disability represents a paradigm shift in understanding disability, emphasizing that disability arises not from individual impairments but from societal barriers that limit full participation. This model posits that the physical, social, and attitudinal environments must be designed to accommodate the diverse needs of all individuals, rather than forcing individuals to adapt to a rigid and exclusionary norm (Oliver, 1990; Shakespeare, 2013). The principles of the social model challenge the

traditional medical model, which pathologizes disability as a problem to be treated or cured within the individual. Instead, the social model advocates societal change, including the removal of physical barriers in the built environment, the eradication of discriminatory attitudes, and the implementation of inclusive policies (Barnes & Mercer, 2003; Thomas, 2004). The model's emphasis on equality and social justice has had profound implications for public space and landscape design, driving a shift toward creating environments that are universally accessible and welcoming to all.

The Social Model of Disability emerged from the 1970s disability rights movements, particularly in the UK, where figures like Michael Oliver challenged the prevailing medical model (Oliver, 1996). This model, rooted in broader civil rights movements, provided a framework for addressing systemic inequalities faced by people with disabilities (Finkelstein, 1980; Barnes, 1991). It has since influenced legislation such as the UK's Disability Discrimination Act and the US's Americans with Disabilities Act, mandating accessibility, and non-discrimination in public spaces (Imrie, 2012), and has shaped public policy and planning to prioritize inclusivity.

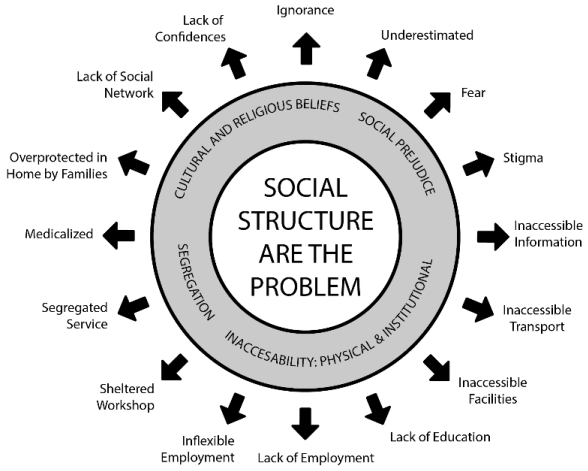

Figure2 Social Model of Disability.

Source: Diagram adapted from Yokotani (2001).

The Social Model of Disability, as illustrated in the diagram, shifts the focus of disability from the individual to the broader societal structures that perpetuate exclusion. This model posits that disability arises not from a person's physical or mental impairments but from the social, cultural, and institutional barriers that restrict participation. The diagram highlights key structural issues such as cultural and religious

beliefs, social prejudices, and segregation, which lead to the marginalization of individuals with disabilities. These barriers manifest in forms such as ignorance, fear, stigma, and the devaluation of people with disabilities, ultimately reinforcing exclusion.

The model emphasizes the role of inaccessibility in perpetuating disability, particularly in areas such as transportation, education, employment, and public services. For example, the lack of accessible information systems, inflexible employment opportunities, and segregated services, such as sheltered workshops, limit the full societal participation of individuals with disabilities. Institutional practices and societal attitudes systematically exclude disabled individuals, framing disability as a sociopolitical issue rather than an individual deficit. The Social Model of Disability challenges the traditional medical model by advocating for systemic change—removing physical, institutional, and attitudinal barriers to create an inclusive society. For example, installing tactile pathways and braille signage supports people with visual impairments; wide, ramp-accessible routes assist those with mobility challenges; and clear, pictogram-based signage benefits individuals with cognitive or learning disabilities. These changes ensure equitable access and full participation across public spaces.

In the context of public space and landscape design, the social model has led to a re-thinking of how spaces are conceptualized and constructed. Designers are increasingly recognizing that traditional design practices often exclude people with disabilities by de-fault. The shift toward a more inclusive approach, inspired by the social model, involves not only meeting accessibility standards but also proactively identifying and removing barriers that could prevent full participation (Steinfeld & Maisel, 2012). This approach has been integral in advancing the concept of universal design, which seeks to create spaces that are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design (Mace, 1985).

The influence of the social model on public space and landscape design is evident in numerous contemporary projects that prioritize accessibility and inclusivity. One prominent example is the redesign of public parks to incorporate elements that accommodate a wide range of abilities. For instance, New York City's High Line Park exemplifies the application of the social model by providing a space that is accessible to people with mobility impairments through features such as gently sloping ramps, smooth pathways, and strategically placed seating areas (Graham, 2016). The park's design reflects a commitment to inclusivity by ensuring that individuals with disabilities can enjoy the space alongside others, rather than being segregated into separate, specialized areas.

Another example is the development of inclusive playgrounds that integrate accessible equipment and sensory-rich environments to cater to children of all abilities.

The Maggie Daley Park in Chicago is a leading example, featuring play structures that are accessible to children with physical disabilities, including those who use wheelchairs, as well as spaces designed to engage children with sensory processing disorders (Moore & Lynch, 2016). These designs embody the principles of the social model by creating environments where all users can participate equally and experience the benefits of public spaces.

Moreover, the application of the social model in landscape design extends beyond urban parks to broader urban planning initiatives. The concept of "Complete Streets," which advocates for streets designed to be safe and accessible for all users, including pedestrians, cyclists, and people with disabilities, is rooted in the social model's emphasis on dismantling barriers (Riggs, 2011). These streets incorporate features such as curb cuts, tactile paving, and accessible public transportation options, ensuring that public infrastructure supports the full participation of individuals with disabilities in urban life.

These examples demonstrate how the Social Model of Disability has been successfully integrated into public space and landscape design, leading to environments that are not only physically accessible but also socially inclusive. However, despite these advancements, there remains a need for continued advocacy and innovation to ensure that all public spaces truly reflect the principles of the social model, enabling full participation and fostering a sense of belonging for all individuals.

Therapeutic Models of Disability

Biopsychosocial Model

The Biopsychosocial Model, developed by George L. Engel in 1977, represents a comprehensive framework for understanding health and illness by considering the interplay between biological, psychological, and social factors. This model emerged as a critique of the traditional biomedical approach, which often isolates health issues to purely biological causes without considering the broader context of an individual's life (Engel, 1977). The Biopsychosocial Model emphasizes that health and illness result from a dynamic interaction of these three domains, thereby advocating for a more holistic and personalized approach to healthcare (Borrell-Carrio, 2004). The model's principles are now widely accepted in various fields, including public health, psychiatry, and chronic disease management, as they acknowledge that factors such as stress, socioeconomic status, and social support networks significantly influence health outcomes (Wade & Halligan, 2004).

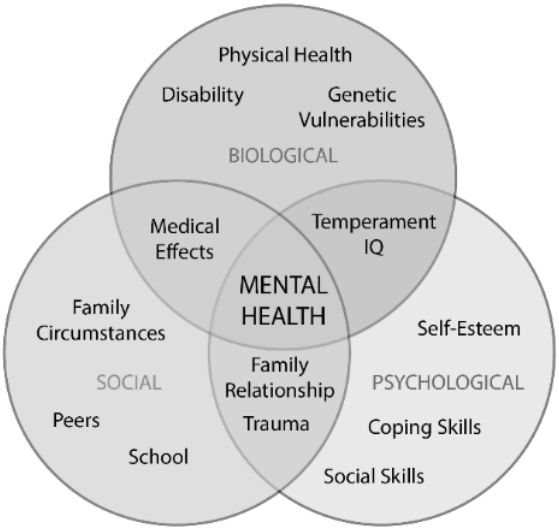

Figure 3 Biopsychosocial Model of Mental Health.

Source: Diagram adapted from Boren (2022).

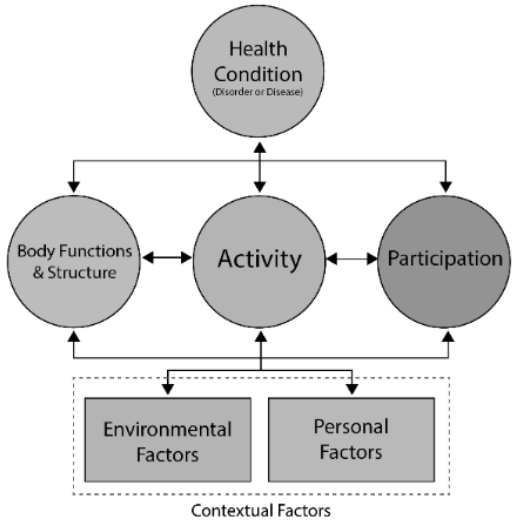

Figure 4 Biopsychosocial Model of Disability.

Source: Diagram adapted from WHO (2001).

The Biopsychosocial Model provides a framework to address the interconnected needs of individuals with disabilities by incorporating therapeutic landscapes and personalized interventions. For instance, sensory-rich gardens can engage individuals with autism spectrum disorders, while adaptive exercise zones

support physical rehabilitation for those with movement disabilities. The model's holistic approach emphasizes the interplay of physical, psychological, and social factors, offering tailored solutions that address the complexities of diverse disabilities.

In the context of public space and landscape design, the Biopsychosocial Model has been instrumental in guiding the development of environments that cater to the holistic needs of individuals. For instance, therapeutic landscapes—such as healing gardens in hospitals and wellness parks—are designed based on the principles of this model, integrating natural elements that promote physical health, psychological well-being, and social interaction (Marcus, & Sachs, 2013). These spaces often include features like water elements, varied plant species, and seating arrangements that encourage social engagement, all of which contribute to reducing stress and improving mood (Ulrich–et al., 1991). The model's influence is also evident in the design of community parks and green spaces that promote physical activity, social cohesion, and mental health, acknowledging that public spaces must support the interconnected dimensions of human well-being (Ward, Aspinall, & Bell, 2010).

Furthermore, urban planners and landscape architects are increasingly applying the Biopsychosocial Model to ensure that public spaces are inclusive and supportive of diverse populations, including those with chronic illnesses or disabilities. This approach not only enhances accessibility but also fosters environments that are conducive to social support, a critical factor in managing chronic health conditions (Pretty et al., 2007). By applying the Biopsychosocial Model, public spaces can be designed to serve as therapeutic environments that address the comprehensive needs of their users, ultimately contributing to the overall health of communities. The Biopsychosocial Model emphasizes the interplay between physical, psychological, and social dimensions of health—an approach that is reflected in studies on active design. A case study focusing on office workers in Bangkok illustrates how thoughtfully designed public spaces can promote physical activity, social engagement, and mental revitalization (Kerdchuen et al., 2022). The research shows that walkable pathways, open seating areas, and green shading elements within business districts can encourage movement and alleviate work-related stress. This aligns with therapeutic landscape principles and demonstrates how spatial interventions can serve broader health functions beyond accessibility. While not focused exclusively on people with disabilities, this study supports the argument that inclusive public space must enable a spectrum of physical and psychological benefits for all users—especially in dense urban environments.

Person-Centered Therapy Model

Firstly, The Person-Centered Therapy Model, pioneered by Carl Rogers in the mid-20th century, is a humanistic approach to therapy that emphasizes the importance of the individual's subjective experience and inherent capacity for self-healing and growth (Rogers, 1951). Central to this model are the principles of empathy, unconditional positive regard, and congruence, which Rogers posited as essential conditions for fostering an environment in which individuals can achieve their full potential (Rogers, 1980). Unlike more directive forms of therapy, Person-Centered Therapy focuses on providing a supportive environment that allows clients to explore their thoughts and feelings without judgment, thereby facilitating personal growth and self-actualization (Cain, 2010). This model has significantly influenced not only psychotherapy but also educational and organizational practices, where creating environments that empower individuals has become a key focus (Wilkins, 2010).

The principles of the Person-Centered Therapy Model have been applied to public space design to create environments that support personal well-being and emotional health. For example, spaces designed for reflection and contemplation, such as meditation gardens or quiet areas within public parks, embody the model's emphasis on providing environments that cater to individual needs and promote self-reflection (Cooper, 1995). These spaces are intentionally designed to be flexible and adaptable, allowing users to engage with the environment in ways that are meaningful to them, whether through solitary reflection, creative expression, or intimate social interactions (Kaplan, 1995).

This model's focus on individualized experiences is particularly beneficial for addressing the emotional and behavioral needs of users with disabilities. For example, quiet zones and areas for self-reflection within public spaces align with the therapeutic needs of individuals managing anxiety or PTSD. Additionally, flexible designs that allow users to engage with spaces in ways that resonate with their personal preferences support individuals with intellectual or learning disabilities, fostering self-expression and emotional well-being.

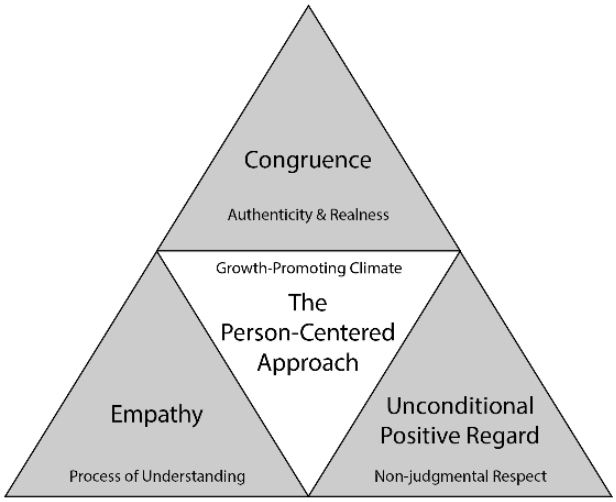

Figure 5 The Person-Centered Approach Model

Source: Diagram adapted from Quest Psychology Service (2022).

The application of the Person-Centered Therapy Model in landscape design often involves creating spaces that offer privacy and seclusion, recognizing that individuals sometimes need a retreat from the demands of daily life to engage in self-care and introspection (Ulrich, 1999). For instance, in urban settings, the inclusion of small, enclosed garden spaces or quiet nooks within larger parks provides users with the opportunity to experience peace and solitude, facilitating emotional well-being and stress reduction (ibid). These design strategies reflect the model's core principles by prioritizing the creation of environments that are supportive, non-judgmental, and conducive to personal growth. The security of a site is of paramount importance as it directly impacts the safety and well-being of its users. A person-centered design approach is preferable to the application of generalized grounded theory in this context, as it prioritizes the specific needs and experiences of individuals interacting with the site. Generalized theories, by nature, tend to overlook the context-dependent variations in how social phenomena are experienced by different actors. Given that these variations are shaped by the distinct circumstances of each user, a person-centered design allows for the development of more tailored and effective security measures, resulting in a safer and more responsive environment. (Nagaie, 2010).

Environmental Psychology Model

The Environmental Psychology Model explores the complex interactions between individuals and their physical surroundings, focusing on how different environmental fac-tors influence behavior, emotions, and overall well-being (Gifford, 2014) . This interdisciplinary model draws from psychology, sociology, and urban planning, positing that the design and layout of physical spaces can significantly affect human experiences and social behavior (Proshansky, et al. , 1970) . Environmental psychology emphasizes the importance of creating spaces that pro-mote positive human-environment interactions, such as environments that reduce stress, enhance safety, and foster a sense of belonging and community (Bell et al., 2001). The model also considers the psychological impact of environmental factors like noise, lighting, and spatial layout, advocating for designs that mitigate negative effects and enhance positive experiences (Gifford, 2007).

In the early 19th century, growing environmental crises raised concerns about the interaction between humans and nature. Thompson (1998) notes that after Aldo Leopold's influential essay in 1949, a new branch of moral philosophy known as "environmental ethics" emerged. (Selanon, 2019) This subfield of philosophy focuses heavily on the moral values associated with both the human and nonhuman worlds in relation to their environments. The Environmental Psychology Model has been extensively applied in public space design to create environments that support mental health and well-being. A key concept emerging from this model is "biophilic design," which incorporates natural elements into urban environments to foster a connection with nature and improve psychological well-being (Kellert–et al., 2008). Natural elements in urban environments often include green roofs, vertical gardens, and the use of natural light in building design. Parks and open spaces may also feature water elements, native vegetation, and naturalistic layouts (Wilson, 1984). Singapore is widely recognized as a global leader in biophilic urbanism, with iconic developments such as Marina One and Parkroyal on Pickering. Copenhagen, Denmark actively promotes climate-adaptive architecture and mandates green roofs for new buildings. Milan, Italy is renowned for Bosco Verticale, a globally recognized high-rise that integrates trees and vegetation into its structure. These design elements in urban environments are based on the understanding that exposure to nature can reduce stress, enhance cognitive function, and promote emotional resilience (Kaplan, & Kaplan, 1989).

Environmental Psychology emphasizes designing spaces that positively influence behavior and emotions, with specific considerations for disability. For example, biophilic elements like natural light and greenery can reduce sensory overstimulation for individuals with autism, while noise-dampening materials support those with hearing or communication disabilities. Thoughtfully designed layouts that encourage safety and comfort, such as enclosed spaces for individuals with multiple disabilities, illustrate how the model can meet varied user needs.

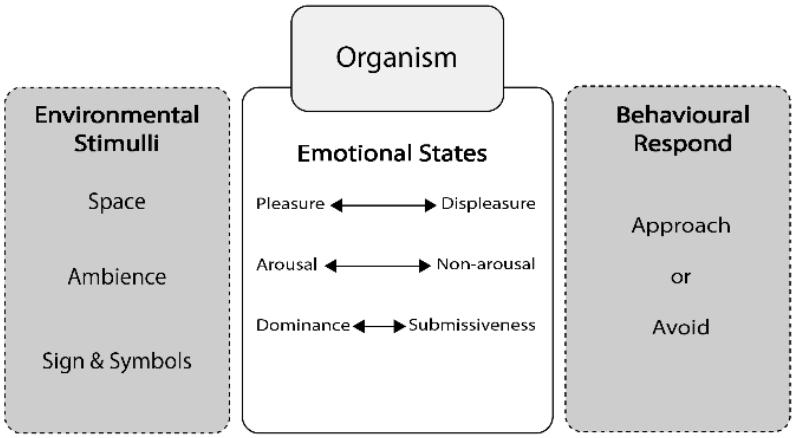

Figure 5 The Basic Environmental Psychology Model

Source: Diagram adapted from Higgs (2017).

Additionally, the Environmental Psychology Model informs the design of public spaces that encourage social interaction and community engagement. For instance, the layout of urban plazas and pedestrian streets can be designed to facilitate social encounters and create a sense of community by incorporating features such as comfortable seating, open spaces for gatherings, and pedestrian-friendly pathways (Marcus, & Sachs, 2013). These spaces are often designed with an understanding of how environmental factors like proximity, visibility, and accessibility influence social behavior and community dynamics (Hartig, et al., 2003). By applying the principles of environmental psychology, designers can create public spaces that not only meet functional needs but also enhance the psychological and social well-being of their users. While the Social and Therapeutic Models often focus on physical or psychological needs, inclusive public space must also address cultural identity and community belonging. A case study of Tai-Lao communities in Thailand illustrates how spatial design fosters social interaction and reinforces local cultural values through shared semi-open spaces, community-driven rituals, and context-specific layouts (Kerdchuen et al., 2022). These

findings resonate strongly with the principles of the Environmental Psychology Model and the Person-Centered Therapy Model, which emphasize emotional safety and contextual experience. Unlike generic universal design solutions, such culturally embedded spatial practices reflect a deeper form of inclusion—where individuals see themselves represented in and supported by the physical environment. Incorporating such insights into contemporary urban parks could bridge the gap between functional accessibility and emotional connection.

While environmental challenges are increasingly complex and multidimensional, existing design discourses often fail to account for the cultural, social, and spatial dimensions of sustainability. By critically engaging with environmental thought—particularly as it intersects with landscape architecture—we can reframe environmentalism not only as ecological stewardship, but also as a practice of spatial justice and inclusive urban design (Selanon, 2019).

Case Studies Analysis from Therapeutic Models

Therapeutic Models in landscape design highlights several successful approaches and outcomes. For example, the design of Maggie's Centers in the UK, which integrate therapeutic landscapes with cancer care, showcases the effectiveness of incorporating natural elements and quiet spaces into healthcare environments (Marcus, & Sachs, 2013). These centers have been lauded for their ability to reduce stress and improve the quality of life for patients and their families. Another notable case study is the Green Road Project at Walter Reed National Military Medical Center in the United States, which provides a natural, restorative environment for veterans undergoing treatment. This project demonstrates the value of integrating therapeutic landscapes into military healthcare settings, with reported outcomes including improved mental health and increased social cohesion among veterans (Hartig, et al., 2003).

Beyond Western contexts, case studies from Asia and Latin America further illustrate the universal applicability of integrating therapeutic design into public spaces. The Singapore Therapeutic Garden Network, developed under the National Parks Board, incorporates biophilic design principles such as multi-sensory experiences through fragrant plants, textured walking paths, auditory elements like water features, and visual cues designed to stimulate memory recall. These features, along with dementia-friendly spatial arrangements, aim to enhance the well-being of elderly individuals and those with cognitive impairments. Similarly, the Chapultepec Forest in Mexico City integrates green therapy and nature-based rehabilitation programs to support individuals recovering from mental health conditions while also promoting accessibility. These examples reinforce

how therapeutic landscapes, when adapted to local socio-cultural and environmental contexts, can effectively address diverse health and accessibility needs.

Case studies demonstrate how therapeutic interventions can be tailored to specific disabilities. For instance, sensory gardens designed for autism spectrum disorders provide controlled environments that minimize overstimulation while promoting engagement. Similarly, healing landscapes in hospital settings cater to individuals with physical disabilities by offering wheelchair-accessible pathways and adaptive equipment. These examples highlight the potential for therapeutic models to enhance the well-being of users with diverse needs through intentional design.

The lessons learned from these case studies emphasize the importance of designing public spaces that are not only physically accessible but also conducive to healing and well-being. By analyzing the design approaches and outcomes of these projects, it becomes clear that integrating the principles of both the Social and Therapeutic Models can lead to more inclusive and effective public spaces that address the diverse needs of all users.

Comparative Analysis of Social and Therapeutic Models

The most effective urban environments emerge at the intersection of the Social and Therapeutic Models, where spaces are designed to be both accessible and restorative. For example, community gardens in urban settings not only provide accessible green spaces but also foster therapeutic engagement through horticultural therapy and social interaction (Sullivan, 2001; Pretty ., et al., 2007). Similarly, urban parks that are designed with both models in mind often include features that ensure accessibility while also providing spaces for rest, reflection, and social interaction, thereby addressing the comprehensive needs of diverse users (Maller et al. , 2006; Moore & Lynch, 2016).

Beyond the Social and Therapeutic Models, other theoretical frameworks further inform public space design. The Biopsychosocial Model, which integrates biological, psychological, and social factors, aligns with the Therapeutic Model' s emphasis on holistic health. However, its individualized focus may insufficiently address wider structural barriers to accessibility, which the Social Model seeks to eliminate. Similarly, the Person-Centered Therapy Model, which values self-directed experiences and flexible environments, aligns with therapeutic principles but lacks a structured approach to universal accessibility. The Environmental Psychology Model, with its emphasis on biophilic design and sensory engagement, promotes restorative experiences in public

spaces but may sometimes prioritize aesthetics over functional accessibility (Kaplan & Kaplan, 1989; Hartig et al., 2003)

Despite these distinctions, integrating these models provides a comprehensive framework for public space design that meets diverse physical, emotional, and social needs. For instance, blending the Social Model's universal design with the Biopsychosocial and Environmental Psychology Models ensures that public spaces are both physically inclusive and psychologically restorative. Universally accessible sensory play areas, for example, can support cognitive development for individuals with intellectual disabilities while also addressing the emotional regulation needs of users with behavioral conditions.

However, despite the potential for synergy, research suggests that these models are still often applied in isolation, leading to public spaces that are either physically accessible but lack therapeutic value or healing-focused but not universally inclusive. There is a growing need for urban planners and landscape designers to move beyond isolated applications toward an interdisciplinary approach that fully integrates accessibility and therapeutic benefits (Shakespeare, 2013; Thomas, 2004). By shifting from a compliance-driven approach to proactively designing environments that support both mobility and mental health, cities can foster equitable, sustainable, and socially supportive urban environments.

Table 1 Connections and Differences Between the Models

Aspect	Connections	Differences
Shared Goals	All models aim to enhance well-being through different approaches: accessibility (Social Model), healing and holistic health (Biopsychosocial), individualized support (Person-Centered Therapy), and environmental influence (Environmental Psychology).	Focus: - Social Model: Emphasizes systemic and structural changes to remove barriers. - Biopsychosocial Model: Centers on health outcomes through a blend of individual and societal factors. - Person-Centered Therapy: Prioritizes individual growth and emotional health. - Environmental Psychology: Investigates environmental impacts on behavior and well-being.

Table 1 Connections and Differences Between the Models (continued)

Aspect	Connections	Differences
Complementarity	Integration of models creates public spaces addressing physical, emotional, and social dimensions. Example: Biopsychosocial and Environmental Psychology models use natural features for mental health support, aligning with therapeutic aims.	Scope: - Social Model: Targets societal-level barriers. - Therapeutic Models: Focus on individual or small-group interventions. - Environmental Psychology & Biopsychosocial Models: Intersect in attention to natural environments but differ in theoretical underpinnings.
Potential Synergies	Combining accessibility from the Social Model with well-being focus from therapeutic models ensures inclusive and supportive environments.	Design Implications: - Social Model: Advocates for universal design and inclusivity. - Therapeutic Models: Focus on enhancing quality of life through tailored interventions.

Source: Author's analysis (2024).

The connections between these models allow for disability-specific applications. For example, the Social Model's focus on inclusive infrastructure aligns with the Environmental Psychology Model's emphasis on creating safe, accessible layouts for individuals with physical or sensory disabilities. Meanwhile, the person-centered approach complements the therapeutic focus on designing flexible, user-driven spaces that cater to the unique needs of individuals managing autism or learning disabilities. Together, these models create a nuanced framework for designing public spaces that respect and respond to the diversity of human experience.

Insights from the Social Model

The Social Model of Disability has been instrumental in reshaping public space and landscape design by emphasizing the removal of barriers that restrict access and participation for individuals with disabilities. The literature identifies key barriers in public space design, including physical obstacles such as inaccessible pathways, insufficient seating, and a lack of tactile signage for individuals with visual impairments (Imrie, 2012; Steinfeld & Maisel, 2012). Facilitators include the implementation of universal design principles that ensure spaces are accessible to all users, regardless of ability (Mace, 1985). User experiences and feedback from social model-based designs indicate that addressing these barriers leads to significant improvements in inclusivity and usability of public spaces. For instance, feedback from users of redesigned urban parks that

incorporate accessible pathways and inclusive play areas highlights increased social interaction and a stronger sense of community (Riggs, 2011; Moore & Lynch, 2016).

Insights from the Social Model underscore the need for barrier-free environments that accommodate the full spectrum of disabilities. For instance, the implementation of tactile paving and visual signage reflects the model's capacity to meet the needs of individuals with sensory impairments. Similarly, inclusive design elements, such as adaptive seating and pathways, ensure that individuals with physical or cognitive disabilities can navigate and enjoy public spaces with dignity and independence.

A relevant example of spatial planning aligned with the Social Model is the site suitability assessment conducted for a proposed health and recreation center in Rangsit, Pathum Thani. The study emphasized factors such as accessibility, safety, proximity to residential areas, and physical connectivity, which align with the Social Model' s emphasis on eliminating environmental barriers (Supanpong, 2021). However, while this approach ensures physical access, it does not extend into the therapeutic domain—such as integrating emotional safety, sensory experiences, or psychological comfort into the design process. This highlights a key limitation of purely access-based planning and underscores the need for a broader, integrated framework like the one proposed in this study, which includes therapeutic models to enhance holistic user well-being.

Insights from the Therapeutic Models

Therapeutic Models in landscape and urban design focus on creating environments that meet the functional and therapeutic needs of users, particularly in promoting mental, emotional, and physical well-being. The literature reveals that therapeutic spaces often include elements such as healing gardens, sensory landscapes, and quiet areas for reflection, all designed to support stress reduction, relaxation, and social interaction (Marcus, & Sachs, 2013; Ulrich, et al., 1991). User experiences and feedback from therapeutic model-based designs underscore the positive impact of these environments on well-being, particularly among individuals with chronic illnesses or mental health conditions. Studies show that users of therapeutic landscapes, such as those in hospitals and rehabilitation centers, report significant improvements in mood, reduced anxiety, and enhanced overall well-being (Kaplan & Kaplan, 1989; Hartig et al., 2003).

Therapeutic models emphasize creating environments that actively support the healing and well-being of users with disabilities. Features such as multi-sensory environments cater to individuals with autism, while quiet zones and healing gardens pro-mote emotional regulation for those with behavioral disabilities. By addressing the

specific therapeutic needs of diverse groups, these models extend the utility of public spaces beyond functionality, fostering holistic health.

Integrating Insights from Both Models

Integrating the Social and Therapeutic Models in public space and landscape design offers significant synergies and complementarities. While the Social Model focuses on re-moving barriers to ensure accessibility and inclusion, the Therapeutic Model emphasizes creating environments that promote healing and well-being. The literature suggests that combining these models allows designers to develop public spaces that are both accessible and therapeutic, addressing the comprehensive needs of all users (Maller et al., 2006; Pretty et al., 2007). Proposed de-sign strategies that incorporate both perspectives include creating universally accessible healing gardens, multi-sensory play areas, and community spaces that facilitate social interaction and promote mental health. These strategies not only enhance the physical accessibility of public spaces but also contribute to the emotional and psychological well-being of users, creating more holistic and inclusive environments (Shakespeare, 2013; Thomas, 2004).

Integrating to The Needs of Disability

Designing public spaces that address the diverse needs of individuals with disabilities necessitates an integrative approach that merges the Biopsychosocial Model, Per-son-Centered Therapy Model, Environmental Psychology Model, and the Social Model. Each framework offers unique strategies that, when combined, create environments fostering accessibility, inclusivity, and well-being.

For individuals with visual impairments, design interventions draw on multiple models. The Biopsychosocial Model emphasizes tactile markers and varied textures to facilitate navigation, while the Person-Centered Therapy Model supports quiet areas for self-guided reflection with braille signage. Environmental Psychology principles recommend enhanced lighting and the use of contrasting colors for better spatial recognition. From a Social Model perspective, ensuring accessible layouts free of tripping hazards promotes broader inclusivity and safety.

Addressing hearing disabilities requires an equally multifaceted approach. The Biopsychosocial Model suggests incorporating visual aids and sound-absorbing materials to minimize environmental noise. Person-Centered Therapy advocates for designated spaces that support visual communication and group interaction. Environmental Psychology highlights the use of sign language-friendly areas and visual alarm systems, enhancing safety and accessibility. The Social Model calls for the

removal of communication barriers through inclusive policies that ensure equal participation.

For individuals with physical disabilities, the Biopsychosocial Model recommends adaptive exercise equipment and therapeutic zones to promote health and mobility. Per-son-Centered Therapy supports flexible designs for customized movement therapies tailored to individual needs. Environmental Psychology advocates for wheelchair-accessible layouts with smooth, non-slip pathways that promote safe and easy movement. From a Social Model perspective, implementing universal design principles ensures equitable access for all, regardless of physical ability.

Individuals with autism and intellectual disabilities benefit from spaces designed with therapeutic intent and sensory-sensitive features. The Biopsychosocial Model supports creating safe zones for stress relief and sensory integration. Person-Centered Therapy highlights structured areas for guided activities and self-expression, fostering emotional and social development. Environmental Psychology encourages multi-sensory environments that promote engagement and cognitive stimulation. The Social Model underscores the need for public spaces free from stigma, designed to accommodate various cognitive needs and support community participation.

By combining these models in a cohesive design strategy, public spaces can be trans-formed into inclusive environments that address the diverse needs of individuals with disabilities. This integrated approach promotes physical health, emotional well-being, and social inclusion, ensuring that public spaces are accessible, supportive, and empowering for all members of society.

Table 2 Multimodal Framework for Addressing Disabilities in Public Space Design

Disability Type	**Therapeutic Models**			**Social Model**
	Biopsychosocial Model	**Person-Centered Therapy Model**	**Environment Psychology Model**	
Visual Impairments	Tactile pathways, sensory-rich gardens, and multi-sensory features to improve navigation and mobility.	Quiet spaces with braille maps and assistive technologies for personalized support.	Enhanced lighting, contrasting colors, and biophilic elements to minimize visual strain.	Ensures tactile paving, clear pathways, and accessible signage to remove barriers.

Table 2 Multimodal Framework for Addressing Disabilities in Public Space Design (continued)

Disability Type	Therapeutic Models			Social Model
	Biopsychosocial Model	**Person-Centered Therapy Model**	**Environment Psychology Model**	
Hearing Disabilities	Visual aids and signage to support non-verbal communication and reduce auditory stress.	Spaces with visual communication tools like sign language zones.	Sound-absorbing materials and visual alarms for improved safety and interaction.	Advocates for accessible spaces with visual communication and no auditory barriers.
Physical Disabilities	Adaptive exercise equipment, wheelchair-friendly pathways, and therapeutic zones for mobility enhancement.	Tailored spaces for individual therapy, such as ergonomic stretching areas.	Non-slip surfaces, ramps, and barrier-free designs encouraging safe movement.	Ensures universal design principles for physical access and social participation.
Intellectual Disabilities	Structured activities, clear signage, and safe zones for learning and cognitive support.	Flexible spaces for guided interaction and tailored cognitive skill-building activities.	Simple layouts, repetitive patterns, and landmarks to ease navigation and cognitive engagement.	Removes societal barriers and fosters an inclusive environment without stigma.
Learning Disabilities	Focused environments with minimal distractions for cognitive processing.	Adaptive learning spaces with personalized tools to support skill-building.	Multi-sensory environments with hands-on activities for engagement and trial-and-error learning.	Advocates for accessible learning and recreational opportunities for all.

Source: Author's analysis (2024).

Implications

Implication for Public Space

The integration of the Social and Therapeutic Models in public space design carries significant theoretical and practical implications for understanding disability and creating inclusive environments. Theoretically, this integration challenges traditional

conceptions of disability by shifting the focus from individual impairments to the broader societal and environmental barriers that limit participation. This perspective aligns with the principles of the Social Model, which advocates designing spaces that accommodate diverse needs and promote social inclusion (Oliver, 1996; Shakespeare, 2013). By incorporating therapeutic elements, such as healing gardens and sensory landscapes, public spaces can also address the psychological and emotional needs of users, offering a more holistic approach to disability and well-being (Marcus & Sachs 2013; Ulrich et al., 1991).

Practically, this integrated approach provides urban planners and designers with a framework for creating spaces that are not only accessible but also therapeutic. Such designs support the notion that public spaces should cater to the com-prehensive needs of all users, fostering environments that enhance social interaction, re-duce stress, and improve overall quality of life (Steinfeld & Maisel, 2012).

Policy Implication

The findings of this research carry significant policy implications, especially for the development of inclusive and therapeutic public spaces in Thailand. Given the rapid urbanization and increasing socio-demographic diversity of cities like Bangkok, there is an urgent need to embed both social and therapeutic principles into public space planning. Policymakers are encouraged to revise existing national accessibility standards—such as those set by the Department of Public Works and Town & Country Planning—to go beyond physical access and include sensory-responsive and mental health-supportive design features (Imrie, 2012; Marcus & Sachs, 2013). For instance, incorporating therapeutic gardens and multi-sensory landscapes within public parks—similar to the pilot projects seen in Suan Luang Rama IX or Chulalongkorn University Centenary Park—could serve as models for wider implementation

Furthermore, regulatory frameworks could be adapted to provide incentives for local governments and private developers to integrate therapeutic elements such as shaded rest areas, calming water features, and dementia-friendly pathways into both new and existing urban projects. These efforts could be aligned with Thailand's commitment to the UN Sustainable Development Goals, particularly Goal 11 on sustainable cities and communities (Kellert et al., 2008).

Ultimately, moving from a compliance-based model to a proactive, human-centered strategy offers an opportunity to reimagine Thai public spaces as preventive health infrastructure. By embedding these inclusive and therapeutic principles into urban

design policies, Thailand can lead in advancing spatial equity, public well-being, and culturally sensitive design standards in Southeast Asia.

Challenges and Limitations

Despite the potential benefits, integrating the Social and Therapeutic Models in public space design presents several challenges. One of the key issues is the potential conflict between accessibility and therapeutic design elements, where certain therapeutic interventions—such as sensory-enriched environments or naturalistic pathways—may inadvertently create barriers for users with mobility impairments (Gifford, 2014). Additionally, existing research and design practices often treat these models separately, leading to a lack of comprehensive frameworks that integrate both physical accessibility and therapeutic benefits in a cohesive manner (Shakespeare, 2013; Thomas, 2004). This fragmentation underscores the need for greater interdisciplinary collaboration between urban planners, designers, and health professionals to develop more inclusive and adaptive public spaces.

Another critical limitation is the study's reliance on secondary data, particularly existing case studies that may not fully reflect the diverse socio-cultural and environmental contexts of public spaces worldwide. While narrative reviews provide a valuable synthesis of current knowledge, they are inherently constrained by the scope and availability of existing literature. Many case studies in therapeutic landscape design originate from Western contexts, where accessibility standards and public health priorities may differ from those in Asia, Africa, or Latin America. As a result, findings may not be universally applicable to all urban settings. While this study is conceptual in nature and draws primarily on literature review and comparative analysis, future research would benefit from field studies, participatory design approaches, and empirical evaluations of integrated public space models across geographically and culturally diverse regions. These methods would allow for the testing and contextual validation of the frameworks proposed here, particularly within under-researched contexts such as Thailand.

Additionally, public space interventions based on Social and Therapeutic Models require long-term evaluation to assess their real-world impact on users. While existing literature provides insights into short-term benefits, more research is needed to examine how these spaces perform over time in terms of usability, maintenance, and long-term health outcomes. Addressing these challenges through interdisciplinary research, cross-cultural analysis, and user-centered methodologies will be crucial for ensuring that public space design continues to evolve toward greater inclusivity and holistic well-being.

Conclusion

This research has underscored the critical importance of integrating the Social and Therapeutic Models in public space design, revealing key findings that highlight the benefits of such an approach. The Social Model's emphasis on removing societal and environmental barriers aligns with the need for accessible and inclusive public spaces, while the Therapeutic Model contributes by addressing the psychological and emotional well-being of users through restorative design elements. By merging these paradigms, public space design can evolve to not only accommodate the physical needs of all individuals but also foster environments that promote mental health, social interaction, and overall well-being. This integrated approach offers significant contributions to both Disability Studies and Public Space Design, providing a more holistic understanding of how public spaces can serve diverse populations.

Theoretically, this research expands the discourse on disability by proposing a model that goes beyond physical accessibility, incorporating therapeutic principles that address the comprehensive needs of individuals. Practically, it offers urban planners and designers a framework for creating public spaces that are both accessible and healing, thereby enhancing the quality of life for all users. Moreover, this research contributes to policy development by advocating for regulatory changes that support the implementation of integrated design approaches in public space planning.

Future research should continue to explore the intersections of these models, with a focus on interdisciplinary collaboration between urban planning, landscape architecture, psychology, and health sciences. Such research could investigate the specific design features that most effectively combine accessibility and therapeutic benefits, as well as the challenges of implementing these features in diverse urban contexts. Additionally, there is a need to explore how these integrated designs impact different demographic groups, including those with varying types and levels of disabilities. By addressing these areas, future studies can further refine the theoretical and practical frameworks for designing inclusive and therapeutic public spaces.

This study advances the discourse on inclusive public space design by synthesizing the Social and Therapeutic Models into an integrated framework that extends beyond existing paradigms of universal design and therapeutic landscapes. While universal design prioritizes accessibility, it often lacks a structured approach to addressing psychological and emotional well-being. Conversely, therapeutic landscapes emphasize restorative and sensory experiences but do not always meet the physical accessibility needs of diverse users. This research bridges these gaps by demonstrating how public spaces can be designed to be both physically inclusive and therapeutically

enriching, ensuring that individuals with disabilities benefit not only from barrier-free environments but also from spaces that actively promote mental, emotional, and social well-being. By articulating a multimodal approach that considers the intersections of accessibility, sensory engagement, and healing environments, this study provides new insights into how public space design can serve as a holistic intervention for diverse disabilities. This synthesis offers a practical framework for urban planners, architects, and policymakers seeking to create environments that are not only compliant with accessibility standards but also enhance overall quality of life for all users.

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