


Creating Exercise Spaces in Parks for Older Adults With Fitness, Rehabilitation, and Play Elements: A Review and Perspective

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Abstract

Parks usually create a protective playground space for children to perform physical activity like jumping, running, and climbing. Specific spaces have rarely been created for older adults to perform physical activity in public parks. Now that park designs increasingly include outdoor exercise spaces for older adults, yet the important elements or considerations when designing this space remain unclear. Here, we present the emerging importance of and evidence for creating well-designed activity spaces for senior citizens in public parks in the era of population aging.

Keywords

active life/physical activity, aging, community, prevention, rehabilitation

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Introduction

Population aging is one of the most significant transformational phenomena of the century (Bloom et al., 2016). Urban and neighborhood design needs to be transformed to accommodate the increasing proportion of older adults living in communities. Since 2007, the World Health Organization (WHO) has advocated the importance of creating safe and friendly living environments for senior citizens and produced guidelines for age-friendly cities (World Health Organization, 2007). These guidelines express the age-friendliness of a city in eight dimensions, namely, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, community support and health services, and outdoor spaces and buildings. The key indicators of the age-friendliness of outdoor spaces and buildings as identified by WHO include a clean environment, green space, well-maintained walkways, outdoor resting places, safe open spaces, senior accommodating services, accessible buildings, and clean toilets. Despite the mention of green space, which includes public parks, these guidelines do not state how public parks can or should be made age-friendly to accommodate the physical activity (PA) of senior citizens.

PA is broadly defined as “any bodily movement produced by skeletal muscles that results in energy expenditure” (Caspersen

et al., 1985). All forms of bodily movement are classified as PA. Previous research conducted in Western countries such as the United States shows that the PA behavior of senior citizens in public parks mainly involves walking (Payne et al., 2005). However, in Asian countries such as China, in addition to leisure walking, stretching exercises, “square dance” or dancing, and tai chi are major forms of PA behavior of older adults in public parks (General Administration of Sports of China, 2015; Wang & Wu, 2020). In the past decade, low-impact outdoor exercise equipment has been installed in various public parks around the world (Lee et al., 2018). Some of these equipment are designed to be senior-friendly, and others are for general usage. Regardless of the intended usage, however, such outdoor exercise equipment is used

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and positively perceived by senior citizens (Chow, 2013; Chow et al., 2017; Lee & Ho, 2021; Stride et al., 2017). Increasingly, research is revealing the multifaceted nature of such spaces. There is emerging evidence that when such age-friendly spaces are created in public parks, older people use them to perform a range of activities. Apart from using the outdoor exercise equipment for fitness activities, they also use these spaces for rehabilitation and play.

This perspective begins with a historical review of the features of public parks designed for senior citizens. Thereafter, the current evidence for physical fitness activities, rehabilitation, and play in senior-friendly outdoor spaces is reviewed. Finally, the use of fitness, rehabilitation, and play elements to indicate age-friendliness in public parks is discussed.

A historical review of public park features for senior citizens

Historically, public parks have always paid more attention to the needs of children rather than senior citizens when installing facilities for PA. For instance, spaces/zones are assigned as playgrounds to provide children with a proper protected space to develop their motor skills and interact with peers (Jeon & Jun, 2021; Spencer & Wright, 2014). For the senior population group, attention has always been given to passive or low to moderate intensity recreation, such as the provision of chess tables, adequate benches to rest on, and smooth walking paths for safe walking (Besenyi et al., 2013; Onose et al., 2020). Only in the past decade have public parks worldwide increasingly created specific spaces/zones with low-impact outdoor exercise equipment for senior citizens to engage in PA (Loukaitou-Sideris et al., 2014). Unlike children's playgrounds, these spaces have been referred to in the literature by a range of terms, including "seniors' playgrounds," "geriatric parks," "golden age gyms," "senior exercise parks," or "elderly fitness corners" (Lee et al., 2018). The common functional features of these spaces are low-impact exercise apparatus, benches, lighting, and handrails.

Fitness activities

In line with children's playgrounds, the key purpose of these outdoor senior-friendly exercise spaces in public parks is the strengthening of users' physical health. A research team in Australia suggested that outdoor senior-friendly exercise spaces should include different types of exercise equipment to benefit the cardiorespiratory system, skeletal muscles, mobility, functional movement, agility, flexibility, and range of motion (Levinger, Panisset, Parker, et al., 2020). Recently, researchers and practitioners have developed interventions based on senior-friendly exercise facilities to improve the physical health outcomes of older adults (Ng et al., 2020). Some intervention studies have found that by following a specific protocol, physical functions such as strength, balance, and mobility can be improved in older adults (Leiros-

Rodríguez & García-Soidan, 2014; Levinger, Panisset, Dunn, et al., 2020; Sales et al., 2017).

Rehabilitation activity

Although the key purpose of senior-friendly outdoor exercise spaces is physical fitness (for preventive health), qualitative studies of such spaces have revealed that older adults also use the exercise facilities for rehabilitation (Chow, 2013; Copeland et al., 2017; Lee & Ho, 2021). Structured observations during a qualitative study revealed that low-impact exercise facilities were used by wheelchair users and frail older adults who walked with assistive equipment (Lee & Ho, 2021). Frail adults accompanied by their caregivers also performed exercise movements learned during rehabilitation sessions with allied health professionals (Lee, 2021).

Play activity

While the word "play" is more frequently associated with children, verbatim transcriptions across studies have revealed that senior citizens like to use the word "play" when talking about physical exercise activity in parks. For example, they expressed that they would like to "play" with exercise equipment in parks and use the playground facilities for stretching activities. They even made their experience "playful" by using handrails, tree branches, and benches to aid their exercise routines (Lee et al., 2021; Perry et al., 2021; Xie & Yuan, 2021). Although the design of outdoor senior-friendly activity spaces in public parks tends to be functional and scholars in the discipline have recommended including specific types of equipment to support various activities for different health outcomes, the studies reviewed above suggested that seniors also need activity spaces or open-ended equipment and structures to support play. This was echoed by a recent video on the YouTube channel "Blondie in China," which showed senior citizens in Beijing using outdoor exercise equipment creatively or performing a range of enjoyable exercise movements in open park spaces in Beijing (Blondie in China, 2021). This illustrates that outdoor senior-friendly exercise spaces in public parks should also be designed to stimulate "play." Through play, seniors can gain cognitive stimulation (Cheung et al., 2019). Furthermore, play is especially beneficial for seniors who are cognitively weak and may not be able to follow instructions or structured steps.

Creating senior-friendly exercise spaces in public parks where fitness, rehabilitation, and play intersect

Park architect and sociologist Galen Cranz defined a public park as "an instrument of social policy" (Cranz, 1982). With the WHO advocating for age-friendly cities, age-friendliness is becoming a social policy direction in many cities and has penetrated different areas such as employment, transportation, and housing. The operationalization of age-friendliness in outdoor exercise spaces in

public parks therefore deserves more discussion and research involving community members, practitioners, and academics. The emerging evidence suggests that senior-friendly exercise spaces should be created in public parks from a multifaceted perspective. Fitness, rehabilitation, and play elements can serve as indicators of the age-friendliness of outdoor exercise spaces for senior citizens.

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