Age-Friendly Ecosystems

Subjects: Social Issues

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The concept of age-friendly ecosystems is grounded in the belief that older adults benefit from integration in their communities with access to a wide range of opportunities to participate in local, national and international healthy and active aging initiatives. Age-friendliness has already had a significant impact on how we think about and address the needs of older adults by recognizing they are not just passive recipients of care and support but active participants in their communities and within ecosystems.

Keywords: age-friendly ; community participation ; ecosystem ; older adults ; older people

1. Introduction

The demographic shift towards aging societies is a well-recognized global phenomenon, largely due to trends in fertility rates decline and increased longevity due to improved public health and sanitary conditions [1][2]. As of 2022, worldwide there were around 781 million people aged 65 or older, constituting 10% of the world population (1 in 10 people) and projected to double to 1.6 billion by 2050, an increase to 16% (1 in 6 people) globally, with low and middle-income countries experiencing the most rapid increase [2][3]. In the United Kingdom (UK), the population aged 65 and over comprise 11 million of the total population (67.5 million); this age group is experiencing a considerable shift compared to other UK population groups [4]. UK's baby boomer generation—people currently in their late 50s and 60s—are projected to account for 20% (1 in 5 people) of the total UK population by 2030 when they reach age 65 and over. With increasing life expectancy, within this sociodemographic, the likelihood of experiencing ill health, poverty, loneliness, and isolation is greater than those of the same age in 2002 due to the progression of physical, psychological, social, and financial vulnerabilities as people age [4][5].

This shift in population aging has significant implications for health and social care systems, as well as for individuals, families, and communities. Research shows that aging is not a uniform or linear process, and that biological, psychological, and social factors interact to influence the health and functioning of older adults [6]. While some people may experience disability or chronic illness in later life, others may remain healthy, active, and autonomous well into their 80s and beyond [7]. However, even those who are relatively healthy may face social isolation, financial insecurity, or ageism, which can have negative effects on their quality of life and mental health [2][8]. To address these challenges, it is important to adopt a holistic and person-centered approach to ensure that older people can 'age in place', meaning that they are able to live independently and safely for as long as possible in their own homes and communities [9]. This approach recognizes the diversity of older people's needs and preferences and acknowledges the value of social connections, meaningful activities, and purposeful engagement; it also has prompted a search for effective ways to maintain and improve wellbeing and health-related quality of life as people age [10][11]. To avoid old-age specific silos, intergenerational programs and activities are one promising strategy for enhancing the social integration and support of older people, while also fostering positive attitudes towards aging and intergenerational learning and solidarity—going beyond a focus on the problematization of older people in health and social care terms [12][13].

According to Kaplan, Sanchez, and Hoffman [14], strong intergenerational relationships are not only at the root of healthy and productive aging; they are also an important component of sustainable and livable societies. Intergenerational relationships can take many forms, such as shared housing, mentoring, volunteering, or community service, and can involve individuals, families, or organizations [12][15][16]. This highlights the need for developing social, physical, and technological/digital intergenerational services, spaces, and places that not only accommodate older adults but that welcome them as an integral part of everyday community life. Moreover, research has shown that intergenerational interventions can improve cognitive, emotional, and physical outcomes for both older and younger participants, as well as promote positive attitudes towards aging and reduce ageism and stereotypes [17][18][19][20][21][22].

To ensure that intergenerational programs and services are effective and sustainable, it is important to involve older people and other stakeholders in their design, implementation, and evaluation [23][24][25]. This requires a community-based and participatory approach [26][27] that values the knowledge and expertise of older people and acknowledges their rights and dignity. It also requires a commitment to age-friendly and inclusive environments that support social, physical, and digital accessibility and usability, as well as to integrated and coordinated health and social care systems that recognize the value of prevention, early intervention, and community support [10][13][26][28][29][30].

Building on the traction of the existing age-friendly cities and communities framework [31][32] and Fang and Sixsmith et al.'s [26] work on intergenerational and age-friendly living ecosystems (AFLE), there is a growing recognition that this concept is essential to achieve the United Nations (UN) Sustainable Development Goals 3 and 11. These goals aim to 'ensure good health and wellbeing for all' and 'make cities inclusive, safe, resilient, and sustainable', respectively [33]. The concept of age-friendly ecosystems is grounded in the belief that older adults should be integrated into their communities and have access to a wide range of opportunities to participate in national and international healthy and active aging initiatives [34]. Nonetheless, this concept developed from the World Health Organization's (WHO) Age-Friendly Cities and Communities initiative [32], and it is still evolving and being refined [34][35][36]. It has already had a significant impact on how we think about and address the needs of older adults by recognizing they are not just passive recipients of care and support but active participants in their communities and within ecosystems

2. Context—What Is an Ecosystem and How Does It Function?

Drawing on the data from the selected sources, ecosystems were defined in a variety of ways using terms such as model, framework, or approach [37][38][39][40]. For example, the Portland and Multnomah County age-friendly initiatives offer a useful way to explore the connection between the World Health Organization (WHO) age-friendly cities framework and the ecological perspective applied to research and action. This approach is being used in a set of age-friendly initiatives co-coordinated by the initiatives' Advisory Council [40]. Similarly, the AAL4ALL project has created a conceptual architecture that supports an ecosystem of integrated care and assistance services [38]. This conceptual architecture takes a holistic socio-technical approach and reflects on the notion of an ecosystem. Overall, ecosystem definitions were often given in terms of frameworks or approaches that draw on Bronfenbrenner's work [41][42] or on the Ecology Theory of Aging developed by Lawton and Nahemow [43]. The Ecology Theory of Aging is based on the idea that aging is a process that involves a complex interplay between the individual and their environment. The theory proposes that there are several environmental factors that can influence an individual's ability to function effectively, including the physical environment (e.g., design and layout of a living space), the social environment (e.g., availability of social support), and the psychological environment (e.g., an individual's perception of their environment). Bronfenbrenner's ecological systems framework [42] offers a comprehensive framework for understanding how an individual's development is shaped by their environment. At the core of this model is the idea that development is not an isolated process but is influenced by multiple environmental systems that interact with each other.

Ecosystems were defined as complex systems consisting of multiple actors, organizations, environments, and interconnections between them. Diverse agents were identified as contributors or actors within ecosystems, including older people themselves as stakeholders, health and care service providers and practitioners, community champions, formal and informal carers, as well as those working within private, voluntary, and community sectors. In all selected studies, except for one [44], 'older adults' or 'older people' were classified as a homogenous group, primarily disadvantaged by age. This highlights the need for greater consideration of diversity (age, gender, ethnicity, health, and functionality ability) among older people within the context of ecosystems framework, as this is crucial for promoting equity and ensuring that the needs and perspectives of all groups are adequately addressed. The observation is in line with research [45][46] that acknowledges the importance of diversity and variability in the aging process and population. Despite the need for this, current social gerontology research practices have largely remained consistent with those used in the 1980s and often fail short of applying an intra-age heterogeneity approach, which otherwise would help strengthen the design of policies and programs that benefit people of all ages [45], abilities, experiences, and characteristics.

Within some included sources, ecosystems were identified within a range of environments, including virtual ecosystems such as telecentres in Brazil [47]; local geographically based ecosystems such as pandemic-related initiatives [38]; and ecosystems that inhabit both virtual and geographical spaces [37][48][49]. The selected sources revealed several domains of interest for supporting community participation of older people, including access to care [38][47][48][50], digital inclusion [47][49][51], counseling [39], and maintaining social and physical independence [37][39][44][49][52]. These findings suggest that supporting older adults' community participation requires a multifaceted approach that addresses their diverse needs and concerns, including access to digital resources, healthcare and counseling services, and opportunities to maintain independence.

Ecosystems were perceived as mechanisms or interventions designed to overcome age-related silos [35][51][53] and transcend disciplinary and sectoral boundaries. These ecosystems were developed to provide more holistic solutions to complex problems [35][38][40][47][48][49][50] and promote collaborative working across professional, academic, and experiential groups [35][36][40][51][53]. Some included sources presented ecosystems as a *service-oriented* system focused on the individual. Service provision-based ecosystems were evident in sources that had government funded provision and healthcare as key focus [40][47][48][51]. Digital organizations were seen as key partners for both communication and organization of services [35][38][50][51]. According to Baldissera et al. [48] an '[older adult] care ecosystem' refers to a system that facilitates the development, organization, and evaluation of virtual organizations to meet the customers' needs. This definition emphasizes the importance of a coordinated approach that leverages the strengths of diverse partners to create a responsive and effective ecosystem for supporting the needs of older adults.

Some included sources took a community-based approach whereby “engagement in something beyond oneself and for the greater good […] is a form of self-transcendence and most effectively grows out of mindfulness at the individual level” [52] p. 127, which is then supported by services. Four sources [35][36][40][44] argue that communities can become motivated to engage in various age-friendly activities, and that such engagement can help different dimensions of the ecosystem to connect and further support the community. In conceptualizing ecosystems as an intervention, many of these approaches do not necessarily convey the descriptive and often organic nature of Bronfenbrenner’s work. There may certainly be scope to use an understanding of the features of ecosystems to enhance or mitigate certain environmental determinants of wellbeing, but the complex interconnections across systems make planning ecosystems less than straightforward.

A key defining feature of ecosystems revolved around the notion of interconnectedness, more specifically health connectivity [38][48][50] and social connectivity [47][51][53], along with the interconnectedness of the two—for instance, through the social determinants of health [37][52]. Interconnectedness was presented as a means to achieve more holistic and ecological approaches to conceptualizing communities and environments that facilitate wellbeing for older populations [35][36][51][53]. The central relevance of interconnectedness is reiterated by Baldissera et al.’s notion that “collaborative networks for [older adult] care suggest the integration of services from multiple providers, encouraging collaboration to provide better personalized services” [48] p. 1. Other sources emphasized interconnectivity between individuals, groups of people, or between services and organizations, either in a theoretical model or through an intervention [38][39][44][48][50][52]. In this regard, Aldwin and Igarashi [44] propose that the collective efficacy of a community can increase the adaptive capacity of individuals. Therefore, it is recommended that initiatives should focus on including families, neighborhoods, and an umbrella support system involving a collaborative environment between various entities, such as governmental or non-governmental organizations and formal and informal stakeholders. Such services can address the unmet needs of stakeholders, better understand an individual’s experience, and, overall, promote community participation [38][39][48][50][52]. However, it is significant that the integration of leisure, commerce, and the business communities is not evident as part of the general ecosystem approach to improve the health and wellbeing of older people through community participation.

3. Ecosystem Mechanisms: What Works Well and What Prevents Effective Working?

The creation and maintenance of an age-friendly ecosystem for the community participation of older people depends on an existing and identified need, authorization, knowledge, planning, preparation, design, and virtual and/or place-based resources and attributes.

3.1. Existing and Identified Need

The analysis indicates that there is an existing and identified need to provide support for older people. Needs can arise in relation to a critical event such as the COVID-19 pandemic. Lak et al. [37] suggest that to promote active aging, an ecological approach is needed, which addresses various types of needs such as social (e.g., social contact, networks, neighborliness), civic, financial (e.g., affordable housing), cultural (e.g., events, activities), and spiritual or religious. Bettis et al. [39] suggest that social needs can be met through relationships with family and friends, whereas mental health support can be provided through counseling. When considering ecosystem factors associated with successful aging, Jang [52] identifies the psychological need for emotional support and ways to heighten, reinforce, and build older adults’ self-esteem. Therefore, addressing such needs can enhance older people’s wellbeing and longevity, though it is important to consider that needs may vary from person to person [37].

3.2. Authorization, Knowledge, Planning, Preparation, and Design

Forms of authorization required to create and maintain an ecosystem reside at the political, organizational, and personal level. Loos et al. [49] discussed the role of political and social movements such as the WHO Age-Friendly Cities and Communities (AFCC) initiative and the UN Sustainable Development Goals in legitimizing the notion of ecosystem developments for older people, whilst DeLaTorre and Neal [40] identified the importance of governmental support and collaboration in this respect. At the organizational level, Fulmer et al. [35] recognize ongoing age-friendly efforts such as certified age-friendly employers, whereas at a personal level, Wetle [36] notes that community champions are acknowledged as mechanisms through which ecosystems can be created. Baldissera et al. [48] suggest that this involves generating knowledge through examining organizations, attending to service structures/models, strategies, and solutions, and understanding the care needs of specific populations. Camarinha-Matos et al. [38] emphasize the importance of defining what an ecosystem should consist of and identifying the necessary supports to make it work and sustainable. Additionally, DeLaTorre and Neal [40] propose the use of action plans and committees as mechanisms to create ecosystems.

3.3. Virtual and/or Place-Based Resources and Attributes

Some of the reviewed sources emphasized the importance of having place-based resources and attributes, such as open spaces, cleanliness, and safety, that are available, accessible, and in proximity to older adults [37][52]. In addition to physical resources, virtual or technological resources also play a crucial role in promoting community participation [51]. Camarinha-Matos et al. [38] developed an ambient assisted living framework that uses digital systems and information and

communication technologies (ICT) support infrastructures to bring together various care services. Carroll et al. [50] aimed to unify community healthcare through online-based technological services, whereas Ferreira et al. [47] illustrated the need to go beyond telecentres to achieve the goal of fostering the digital inclusion of older people in Brazil. Moreover, two sources built upon the WHO Age-Friendly City initiative, using technology and ICT to enhance community participation and engagement [49][51]. Overall, these studies underscore the potential benefits of leveraging technology and digital resources to create age-friendly and inclusive communities.

4. Barriers to Ecosystem Success

When analyzing the success of ecosystems at the micro or individual level, one of the key barriers that older adults face, as identified in the selected studies, is limited knowledge, which can hinder their ability to access and use potential supports effectively [51]. At the meso or interactional level, family and neighborhood barriers were also said also play a significant role. These barriers include family's financial constraints, partner's health problems, unrealistic expectations from friends and family, and lower social and economic status [37]. Thus, health and economic environments can impact how older people access services within their communities. At the macro or broader organizational level, there were three key barriers to successful ecosystem development. Firstly, there is a lack of political commitment at the leadership and policy levels, which can hinder progress [35][36]. However, addressing social, community, and societal issues as priorities was suggested to increase political commitment [36]. Secondly, time and resources can be a challenge for policy development, implementation, and research, which can hinder the creation and maintenance of the ecosystem [35][37][40][50]. Limited resources to create new community hubs without segregating older people were also deemed a barrier to sustainable community participation [37][51]. Lastly, accessibility, particularly digital accessibility, is considered a significant barrier; for instance, low levels of internet access in Brazil can inhibit access to social and civic engagements [47].

5. Facilitators of Ecosystem Success

At the micro or individual level of analysis, the reviewed sources underscore the importance of 'personal motivators' as critical facilitators of ecosystem success. Ferreira et al. [47] highlight that personal motivators such as leisure, hobbies, and entertainment can serve as powerful catalysts for older adults to actively engage in ecosystem activities. Similarly, Jang [52] notes that older adults' perceived control over their health and overall wellbeing can empower them to leverage ecosystem resources and participate actively in community life. Lak et al. [37] further emphasize the significance of older adults' ability to live independently in the community, which motivates them to engage fully in ecosystem activities and maintain their health, according to their own objectives, capabilities, and opportunities.

At the meso or interactional level, facilitating mechanisms such as social capital, elimination of system silos, and equity and diversity play a crucial role in promoting successful ecosystems. Social capital, which encompasses norms of reciprocity, trust, social interactions, and civic participation, is essential for increasing active aging in community settings [37][40]. Furthermore, a strong and supportive social network can enhance the wellbeing and longevity of older individuals in society [37]. Community champions, who are integral components of social capital at the community level, are also identified as vital for maintaining and advancing the ecosystem [35][36].

Eliminating system silos is another critical component for developing successful ecosystems. Fulmer et al. [35] argue that it is essential to eliminate silos and ensure continuity across the care continuum. To achieve this goal, ecosystem stakeholders must coordinate across various sectors, all with the common purpose of creating age-friendly communities. By cultivating a strong sense of social connectedness and mutual support, stakeholders can effectively break down barriers between different areas of the ecosystem and create a more cohesive and effective system that better meets the needs of older adults [35].

In terms of equity and diversity, it is crucial to consider the role of broader age-friendly organizational coalitions when seeking to promote community participation for diverse groups of older people, as argued by Menec [53]. By prioritizing equity and diversity in ecosystem development, stakeholders can ensure that all individuals, regardless of their background or ability, feel welcome and included and able to develop a sense of community, which is essential for promoting the wellbeing and active participation of older adults.

At a macro level, there are several key factors that have been identified as important facilitators of successful ecosystems. These include policy and political facilitators, support systems, and the use of guiding frameworks. Policy and political facilitators involve political commitments towards ecosystem agendas [50], collaborative and holistic approaches to service provisions, unifying of digital and non-digital organizations, and ensuring continuity across the care continuum [35][36][38][40][50][52]. DeLaTorre and Neal [40] note that the interrelation of policies is crucial in creating the connective tissue of neighborhoods, upon which social connectivity is built. Additionally, support systems play a crucial role in facilitating successful ecosystems. These may include trained counselors [39], stakeholder innovation and involvement [50], involvement of international and national agencies (e.g., WHO) and government [53], and the involvement of academic researchers to ensure effective identification of needs and assessment of outcomes [36].

The use of guiding frameworks is also a crucial factor in the success of ecosystems. Guiding frameworks such as CASE or Ecological System Theory (EST) can provide a structured approach to ecosystem development and help to ensure its smooth functioning [36][53]. These frameworks can be adapted to suit the unique social, economic, and cultural context of a community and can be built on existing models developed by organizations such as the WHO [53]. By utilizing these frameworks, ecosystem stakeholders can identify key components and relationships within the ecosystem, facilitate collaboration and information sharing, and develop a comprehensive understanding of the needs of the community.

Overall, the sources highlight the importance of addressing these facilitators at the micro, meso, and macro levels to create successful ecosystems that promote active aging and enhance the wellbeing of older adults in the community.

6. Outcomes

While there may not have been specific evaluations of ecosystems in terms of their outcomes in facilitating the community participation of older people, several ‘outcomes’ were identified in relation to each of the different definitions of ‘ecosystem’. The concept of ecosystem has contributed to the development of various models and approaches that have had positive impacts on the aging population. These include the following:

- A community engagement program aimed at promoting healthy relationships and resilience as well as facilitating digital engagement. Specifically, the development of telecentres as a part of the ecosystem was found to be useful for improving digital engagement. This approach recognizes the importance of social connectedness and access to technology for promoting community participation among older people. However, it was noted that a broader multidimensional approach involving other ecosystem levels would be needed to fully promote digital inclusion [47].

- Active aging across the life-course [37]. This approach recognizes the potential of older people to contribute to their communities and society as a whole and aims to create environments that support their continued participation and inclusion (through lifelong learning, engagement in meaningful activities, and social connectedness).

- A range of key factors to assess ‘successful aging’ among older people aging-in-place, which are organized according to individual, family, and community systems (Jang). These factors may include individual characteristics such as physical and cognitive function, mental health, and social engagement; family-related factors such as social support, caregiving, and intergenerational relationships; and community-related factors such as access to healthcare and social services, neighborhood safety, and social and cultural opportunities.

- Applying ecological principles can facilitate the development of age-friendly communities, as found by [53]. According to DelaTorre and Neal [40], ensuring that cities maintain age-friendly policies requires ongoing planning initiatives that consider macro-level factors. When an ecological approach is used to develop age-friendly cities, as noted by Marston et al. [51], there is evidence of increased stability in areas such as education, support, and employment for older people.

- Politically, adopting an ecological perspective can facilitate political commitment and long-term policy planning towards creating age-friendly communities [35][36][40][50].

- At the policy level, changes that encourage the development of social and built environments promoting belonging and social engagement throughout the life course can facilitate the development of social capital, impacting both community and individual health and wellbeing [37][40][44][47][50][53]. This requires a focus on creating age-friendly environments that support community participation and social connectedness, including access to social and cultural activities, transportation, and public spaces that promote interaction and inclusivity.

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