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Notes and Comments

# The use of Urban Forest Parks to improve human-nature relations and cognitive ability performance in older adults

## O uso dos Parques Florestais Urbanos para ampliar as relações dos humanos com a natureza e promover melhor desempenho cognitivo em adultos da terceira idade

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**Abstract**

At present more than 50% of the human population of Planet Earth, live in urban areas. The natural environment is changed considerably by cities: increase of population, productions of tons of waste, daily, change of biodiversity. The relationships human-nature were disrupted in cities due to the artificial construction of infrastructure. In order to protect biodiversity and recover nature in cities, Urban Forest Parks, as part of green infrastructure are a very important action. At the same time the psycology of urban populations can be improved. The use of Urban Forest Parks to improve social relations, education, physical activities in older adults can improve their cognitive ability and performance.

**Keywords:** urban environment, urban forest parks, green infrastructure, cognitive performance, psycology.

**Resumo**

Atualmente, mais de 50% da população humana do Planeta Terra, vive em áreas urbanas. O ambiente natural é extremamente alterado pelas cidades: aumento da poluição do ar, produção diária de toneladas de lixo, resíduos sólidos e líquidos, perda da biodiversidade. Devido ao sistema totalmente artificial das cidades, houve uma disrupção da interação espécie humana-natureza. Parques Florestais Urbanos são uma das iniciativas mais importantes para recuperar a biodiversidade das áreas urbanas, e são parte da infraestrutura verde. Ao mesmo tempo, a psicologia das populações urbanas pode ser muito melhorada, se o uso dos Parque Florestais Urbanos pelos adultos, mais velhos, for estimulado. Relações sociais, educação, atividades físicas, são estimuladores da capacidade cognitiva e podem melhorar a performance de cidadãos de maior idade.

**Palavras-chave:** ecossistema urbano, parques florestais urbanos, infraestrutura verde, desempenho cognitivo, psicologia.

Planet Earth is now an urban planet. More than 4 billion people, that is more than 50% of the world's population live in cities of fewer the 500.000 people, but there are 28 megacities of more than 10 million inhabitants.

Cities alter the environments in several ways: change the water cycle, create air pollution, produce tons of waste daily, use enormous amount of energy, change drainage patterns producing impervious surfaces . Furthermore reduce biodiversity of terrestrial and aquatic ecosystems due to artificial, construction and river channels degradation The artificial urban environment produced a disruption in the relationship humans/nature (Tundisi, 2021).

Several studies have demonstrated that living in urban areas may affect mental health, and have psychological effects .This is especially true for older adults that have their cognitive capacity impaired by living in a complete artificial environment of a city (Hartig and Kahn Junior, 2016).

Urban forest strategy is an important environmental issue in the 21st century. Climate change, green infrastructure, are related processes. Restoration of urban biodiversity will re-connect people with nature in the cities and promote adaptation to the impacts of climatic changes, which can be severe.

Urban inhabitants are now claiming for the creation of green cities and green infrastructure in cities. Urban Forest Parks are one of these important initiatives (UN Habitat, 2008).

Efforts to protect and set up Urban Forests and ecological urban ecosystems such as wetlands are important tools also for psychological reasons. Parks, green spaces are health resources for urban populations especially for older adults (Rouse and Bunster-Ossa, 2013).

Physical activity associated with social interactions has shown that older adults can improve their cognitive capacity and performance. Education and intellectual engagement are other important issues related to better cognitive response in

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older adults. Education is strongly associated with cognitive performance (Zahodne et al., 2011). These education activities include courses, reading, field excursion, and a wide variety of intellectual activities (Blazer et al., 2015).

Therefore Urban Forest Parks, should be extensively used to stimulate older adults to develop activities in these ecosystems: these would encompass a wide range of intellectual and practical actions, such as observing birds, classifying trees, making photos of animals and flowers, collecting litter, walking and participating in festivals organized in the Urban Parks. These activities, could be considered, as Nature-based schools.

Urban Forest Parks properly managed can be a useful tool to improve quality of life for older citizens promoting their engagement in critical and important environmental issues and challenging the urban environments for a more friendly attitude to its inhabitants .

Urban Forest Parks also could provide social engagement, social activities, and social support. Evidence has shown that increases in social activity and social engagement are associated with higher levels of cognition in older adults (Carlson et al., 2009).

People living in cities especially older adults, can find in nature different challenges for a more active life . The experience in Urban Forest Parks can enhance their attitudes towards nature and restore human-nature relations in a consisting way. This structure t reduce stresses associated with urban life.

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