

Urban green spaces – the aspects of incorporating nature in urban planning for developing sustainable and resilient living environments

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Introduction

Outdoor Environments for Health and Well-being is an international master's program offered at the Swedish University of Agricultural Sciences at Alnarp, aiming to achieve a Degree of Master of Science with a major in Environmental Psychology. The program is for students interested in how the outdoor environment and elements of nature can be strategically used to benefit people's health and well-being. One of the courses, *Nature Based Interventions*, focuses on how different types of natural settings can be used for interventions as part of treatment, rehabilitation, and programs for the prevention and promotion of healthy everyday habits in different user groups. Based on the current knowledge and state-of-the-art of nature-based intervention, students learn why and how natural environments can support humans' health promotion. The knowledge can be used to improve planning, as well as choice of and/or design of places for nature-based interventions. This fact sheet is the final product of the students' work within the course *Nature Based Interventions* during the school term of 2021. The students worked in groups to produce a poster and abstract for the course conference as part of the course examination.



Sharing urban green space
Promoting intergenerational use of public greenspaces as a way to support health and well-being

BACKGROUND

- Greenspace close to home is important especially for children and seniors
- Studies have shown commonalities between adolescents and older people in their use of greenspace, where both groups are supported by accessibility and social values

PROBLEM

- The unequal access for children, adolescents and elderly people to public greenspace.

CONCLUSIONS

- To promote social values when planning urban places would be a way to support intergenerational use of greenspace, and a way to promote health and wellbeing for these groups.

RESULT

- Improve access to urban greenspace by focusing on safe green corridors
- Emphasize entrances, to attract and make people more curious and feel welcomed
- Designing the places with both open and sheltered landscape features for different needs
- Promoting social values as meeting, being together, common activities and interaction.

Fig. 1. Social features to invite different user groups to greenspaces

Fig. 2. Light open green corridors promote safe access to urban greenspaces

Karin Digerfeldt, Lotta Liedman, Sandra Peter, Irina Borodina, Lisa Redmo

Promoting intergenerational use of public greenspaces as a way to support health and well-being

by Karin Digerfeldt, Irina Borodina, Lotta Liedman, Sandra Peter, Lisa Redmo

As urbanization and densification of our cities puts constraints on people's access to urban green space, some groups in society are more affected than others. Children, adolescents, and elderly people are mentioned as vulnerable groups that do not have equal access to the urban landscape; therefore, promoting intergenerational use of public green space is important.

Contact with nature and participating in outdoor activities are recognized as supportive for health and well-being. Studies have shown commonalities between adolescents and older people's preferences for use of greenspace with regard to accessibility and social values. This points to the importance of designing these environments to facilitate social outdoor activity and to provide easy access in order to support health and well-being. The Perceived Sensory Dimensions model describes the qualities in nature as perceived by people, namely: Natural - Cultural, Cohesive - Diverse, Sheltered - Open, and

Serene – Social. They may be used for designing places supporting intergenerational use of greenspace. An environment that is dominant in social values needs areas for meeting, being together, common activities, and interaction. Cultural dimensions might support the social values in offering gatherings and events. Open spaces and vistas allow people to participate in social interaction, even with distance. However, these aspects have to be balanced with opposing needs of sheltered, silent places for privacy. With our case-studies as a background, we conducted individual investigations, which we presented and discussed with each other and then supplemented the results with literature. The results showed that both adolescents and elderly describe how they can feel uncomfortable in green spaces due to unfamiliarity and perceived lack of safety. Also, the view of adolescents as a problem in public places is widespread and has contributed to their marginalization and social exclusion. However, as these age groups highly value social interaction when visiting green environments, a way to attract young adults and elderly could be to focus on the qualities of the social dimension. A way to improve access to green spaces could be to provide a network of green connectivity corridors, offering safe and attractive routes, e.g., by removing physical barriers, such as roads or fences. Green corridors need to be safe with adequate light and clear nature. Entrances to greenspaces should be inviting and arouse curiosity. Greenspaces need open areas and comfortable places for gatherings and social interactions that can provide opportunities to bond with others, develop a sense of community, social cohesion and affiliation, and thus have a positive effect on health and well-being. Studies have shown commonalities between children, adolescents, and older people in their use of greenspaces. These groups are supported by accessibility and social values. To consider this when planning urban places benefits intergenerational use of

greenspace and promotes health and well-being for these groups.

Giving the elderly green areas that promote a healthy and social life: Nature-based interventions in urban planning

By Sanna Almqvist, Kei Nilsson, Siri Jeppson, and Sophia Fraggpane

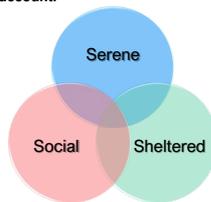
Green areas have been proven to provide feelings of freedom, restoration, and support positive development for the elderly. These areas can improve both physical and psychological health, such as mood, heart rate, and self-regulation. Places for social interactions are important because loneliness tends to increase with age, but places for solitude are also vital. Our aim is to plan green urban areas for the elderly who need support from nature to prevent illness as well as promote health and well-being is therefore crucial in a society with increasingly older inhabitants. The methods we use include the case studies during the Nature-Based Interventions course in Autumn 2021 as well as the Perceived Sensory Dimensions model, or PSD. By applying the model to the planning of green urban areas, it can be revealed which dimensions are the most signi-

ficant in this case. The results show the importance of the dimensions of serene, sheltered, and social. Serene can be calm and peaceful, but it does not describe a “vacuum of silence.” Sheltered is to be seen without being seen (e.g., just to watch others play). Finally, the social element interestingly encompasses the sheltered aspect, in the sense that one is able to just “watch and enjoy.” Future plans for green areas for the elderly should include possibilities for a healthy and social life, places to meet and be engaged in various activities, as well as areas for solitude and inner reflections. The features in the environment should challenge the movement, adhering to both accessibility and safety, e.g., handrails and seating areas. With a focus on the selected elements of the PSD model, the environment should allow for interactions between generations and consider seasonal changes. To conclude, the opportunity for both solitude and social aspects is vital for the elderly when they spend time in green urban areas. Seasonal changes should also be taken into account as some of the most important aspects (e.g., shelter) for a supportive environment are affected by this, such as during winter in temperate countries.



Giving the elderly green areas that promote a healthy & social life Nature-based interventions in urban planning

The opportunity for both solitude and social aspects is vital for the elderly when spending time in green urban areas. Seasonal change is an important factor to take into account.



Found aspects of importance for the elderly in green urban areas, from the PSD model.



Sheltered is to see without being seen.



Social opportunities are important as loneliness tends to increase with age.

Green areas for the elderly should be accessible, support:

- Meeting others
- Engaging in various activities

And encourage:

- Physical movement
- Intergenerational interaction
- Different usage depending on the season



Serene can be calm and peaceful, offering restoration for physical and psychological health.



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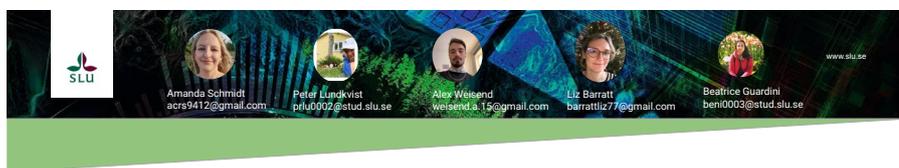
Accessibility to Nature-based health Interventions in urban public parks – Different user groups and their accessibility needs

By Amanda Schmidt, Peter Lundkvist, Alex Weisend, Liz Barret, Beatrice Guardini

Access to public urban parks is an important factor for people's health and well-being as increasing urbanization adds to noise, air pollution, and overcrowding. Nature-based solutions in

urban green settings can provide many health benefits, through stress reduction, improved mental health, physical fitness, as well as cognitive and immune function. With this poster, we aim to: i) inform city planners and landscape architects about the different needs of the target groups regarding accessibility, ii) raise questions regarding universal design and the need of multifunctional spaces in dense, small urban areas. The Swedish National Encyclopedia defines accessibility as "the possibility to take

part in something desirable" and includes aspects such as proximity but also possibilities of interacting with the environment. Accessing public parks can be a difficult challenge for some, and the ability to do so can vary depending on different user groups, such as children, elderly and people with physical and mental disabilities. Some of their accessibility needs overlap and others are in conflict with each other. For example, children and elderly people are particularly reliant on proximity to urban green spaces due to their potential lack of mobility and/or independence. As for people with stress-related illnesses, it is of greater importance that the park should offer some secluded spaces and hence facilitate social distance. Elderly people with dementia benefit from spaces that are smaller, well-defined and easy to orientate in. Urban public parks have many functions and should facilitate cultural and social interactions, physical activity, escape from everyday routines, and if possible, person-place bonding. Therefore, when planning public parks, we should consider the urban context, demographics, and social groups living in the nearby areas to better plan for the needs of the potential target groups involved in Nature-based health interventions.



Accessibility to Nature-based health Interventions in urban public parks – Different user groups and their accessibility needs

CONCLUSION

Urban public parks have many functions and should facilitate: cultural and social interactions, physical activity, escape of everyday routines, and if possible, person-place bonding. When planning public parks we should consider the urban context, demographics and social groups living in the nearby areas.



Fig. 1: Potential users of an urban green area

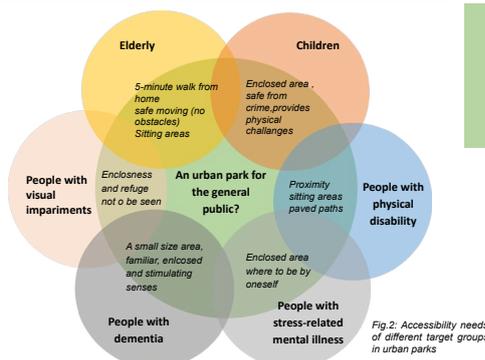


Fig. 2: Accessibility needs of different target groups in urban parks

COMMON ASPECTS

- Proximity
- Safety
- Enclosedness
- Natural elements



In search of serenity & silence in urban areas

An investigation of the citizens everyday-places for restoration

CONCLUSION

The lack of places to find serenity and silence affects peoples' everyday life. The importance of micro-restorative places is the key for sustainable cities. The aim is to explore the qualities of such places.



Restorative experiences could be found in the most unexpected places. This is a typical example.

Serene outdoor places

Urbanization have affected peoples possibilities to find places for solitude and particularly silence.

It is crucial to apply an evidence-based design perspective with the citizens' experiences in focus. Today we need to know how the citizens use, evaluate and create their private spots for daily restoration, in an environment which is rapidly changing and developing.



Expanding cities generate more noise, a typical example.



Micro restorative places are important! Knowledge hidden among the citizens - use it in design and to create sustainable cities.

RESULTS

In this study we expect to identify above all the small places which people use for restoration in everyday life. Most likely, these "micro-places" play an important role. A deep comprehension of the offered qualities in the places is an important step in the process of sustainability and nature conservation. Further, it is of importance to brake the negative effects of rapid urbanization.



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How do people find solitude and serenity in urban contexts?

By Kristina Alsadius, Karin Axelsson, Emelie Georgii, Georgia Pousini & Eleanna Thoma

The trend of urbanization is rapidly developing and by 2050, it is estimated that two-thirds of the world's population will reside in cities. Consequently, land use issues have become one of the main challenges for city developers of today. One of the most significant reasons for poor health in dense cities is noise and lack of restorative places. Urban planners need to take into account ways that promote sanctuaries to offer dwellers places for silence, serenity,

and respite from stress and everyday challenges. It is challenging to combine soundscapes perceived as serene and silent with the built landscape of an urban area. Parks are usually regarded as a buffer for urban noise pollution, but due to densification and societal effectivization, noise also infiltrates these areas at large. Even within noise polluted urban areas, there are however micro restorative places perceived as serene and silent. What are the qualities that distinguish these places? Assessment of sonic environments in micro restorative places can help city planners get a better understanding of the health of the green environments of a city. To avoid anecdotal and arbitrary states of how cities should be developed, an evidence-based approach will be applied. As such, a user perspective is salient and highly valuable in gaining knowledge about people's experiences and use of place. Concurrent assessment of both citizens' satisfaction and perceived importance of silent and serene places will be performed. From this, features and qualities of these places will be analyzed. Insights about the types of environments people seek for serenity and silence will provide extensive information that can be used for guiding soundscape design and developme-

nt of urban spaces. This study is hence expected to provide knowledge about unknown qualities of people's everyday experiences, and to find places where people find silence and serenity in a micro perspective. This outcome will result in guidelines and design principles that are valuable for planners and designers in developing social sustainability. The study explores how micro restorative places may be found both intentionally and spontaneously in people's everyday lives: from park visits to ordinary commutative walks to work, and what characteristics these places possess. User expertise is essential in gaining information about the core values that can be used to protect, develop, and create further places for restoration and serenity within a dense, noise polluted, urban landscape. An evidence-based approach is valuable as a tool for developing sustainable and resilient cities for the future.

Conclusion

By Amanda Gabriel

This fact sheet explores the value of Nature-based health Interventions (NBI) as a key resource in city planning by exploring and illuminating different aspects and needs in society.

The abstracts discuss the operationalization of NBIs in the urban landscape with the support of different theoretical and empirical understandings, with proposed solutions and ideas to support the outcome for health and well-being. The focus is on Perceived Sensory Dimensions and exploring the challenges in designing urban environments for the needs of different groups. There is special focus on the needs of different age groups and the elderly, which is a group that is growing in both size and proportion in the populations of all regions in the world. The focus is also on the need for accessibility for all, drawing from the theory of Universal Design, and the need for participation in urban planning, where the students propose an original method to evaluate soundscapes as a useful tool to design serene environments. Together, this explores ways to positively incorporate nature in city planning and to make an impact in society for public health.

For further information about the master program, please visit: <https://www.slu.se/en/education/programmes-courses/masters-programmes/outdoor-environments-for-health-and-well-being/>

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