

Adapted physical activity, nutrition, health and fitness

Digital Content to promote physical activity in Urban Green Spaces in Harmony with Nature: an Integrated Project of the National Biodiversity Future Center in the City of Pavia

Pamela Patanè

pamela.patane95@gmail.com

DIGITAL CONTENT TO PROMOTE PHYSICAL ACTIVITY IN URBAN GREEN SPACES IN HARMONY WITH NATURE: AN INTEGRATED PROJECT OF THE NATIONAL BIODIVERSITY FUTURE CENTER IN THE CITY OF PAVIA

DIGITAL CONTENT TO PROMOTE PHYSICAL ACTIVITY IN URBAN GREEN SPACES IN HARMONY WITH NATURE: AN INTEGRATED PROJECT OF THE NATIONAL BIODIVERSITY FUTURE CENTER IN THE CITY OF PAVIA

P. Patanè¹, H. Cena^{2,3}, R. De Giuseppe², M. Rainieri¹, D. Rapetti¹, L. Marin^{1,4}

¹Laboratory of Adapted Motor Activity (LAMA), Department of Public Health, Experimental Medicine and Forensic Science, University of Pavia, 27100 Pavia, Italy,

²Laboratory of Dietetics and Clinical Nutrition, Department of Public Health, Experimental and Forensic Medicine, University of Pavia, Pavia, Italy.,

³Clinical Nutrition Unit, Department of General Medicine, ICS Maugeri IRCCS, Pavia, Italy.,

⁴Laboratory for Rehabilitation and Orthopedic Surgery (LAROS), Department of Clinical, Diagnostic and Pediatric Sciences, University of Pavia, 27100 Pavia, Italy.,

Purpose: Sedentary behavior is a growing public health concern. Regular physical activity reduces the risk of chronic diseases and supports physical and mental well-being. Urban green spaces are ideal for promoting exercise in contact with nature. This project, developed within the National Biodiversity Future Center (NBFC), aimed to create digital content to promote physical activity and biodiversity awareness in the urban context of Pavia.

Methods: The Laboratory of Adapted Motor Activity (LAMA) at the University of Pavia coordinated the design and selection of physical exercises, while the Laboratory of Dietetics and Clinical Nutrition from the same university oversaw the scientific framework. The Zoo Plant Laboratory at the University of Milano-Bicocca developed biodiversity content, and Officine Creative managed the audiovisual production. Sixteen exercises were presented in two instructional videos, adapted for beginner and advanced levels. Each video includes an introduction on local biodiversity and simple instructions on exercise execution. Three urban green areas were chosen, *each focusing on a specific motor skill*. Balance training (tandem stance, walking tandem, single-leg balance, Y position): in the Ticino Riverbank, near the “Ponte Coperto”. Strength exercises (squats, bridges, hip abduction, adduction and extension, calf raises, modified push-ups): in the University courtyards. Flexibility and mobility (limb

stretching, spine/neck mobility): in the gardens of the Visconti Castle. In each area there are also walking routes to improve aerobic capacity.

Results: The project produced video-based educational and exercise content for direct use in urban spaces, with no need for a centralized digital platform. Materials will be accessible via QR codes at each training station. Different difficulty levels are designed to engage both physically active individuals and sedentary populations.

Conclusions: The project aims to promote an active urban lifestyle and raise awareness of local biodiversity. Integrating digital exercise content with urban biodiversity education represents an effective and sustainable strategy to promote public health and ecological awareness. The model developed in Pavia within the NBFC framework can be exported to other urban contexts and may contribute to transform green spaces into inclusive, nature-centered areas for physical activity.