

## RECOGNISING THE VALUE OF GEOPARKS IN PROMOTING HEALTH: AN INTERDISCIPLINARY APPROACH

R. Gabriel<sup>1\*</sup>, E. Gomes<sup>2</sup>, A. Alencão<sup>3</sup>, L. Sousa<sup>2</sup>, H. Moreira<sup>4</sup>, E. Cabecinha<sup>5</sup>, A. Faria<sup>6</sup> & E. Rosa<sup>7</sup>

<sup>1</sup> Department of Sport Science, Exercise and Health, CITAB - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

<sup>2</sup> Department of Geology, CGeoCUC - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

<sup>3</sup> Department of Geology, CGUC - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

<sup>4</sup> Department of Sport Science, Exercise and Health, CIDESD - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

<sup>5</sup> Department of Biology and Environment, CITAB - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

<sup>6</sup> Department of Sport Science, CIDESD - University of Beira Interior, Covilhã, Portugal

<sup>7</sup> Department of Agronomy, CITAB - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

\*[rgabriel@utad.pt](mailto:rgabriel@utad.pt)

**Keywords:** *hiking trails, human health, sustainable territories*

In an attempt to understand the human-nature relationship, the *Biophilia Hypothesis* was developed by Edward Wilson (Wilson, 1984), describing the innate human tendency to be drawn to the natural world. In this context, the physical and emotional health benefits of a connection to nature have been well documented (Maller, C., et al., 2008). An ecosystem approach to human health has suggested enhancing the health of communities by instituting ecosystem-management methods that will foster the sustainability of the ecosystem itself and the health of the human beings who are part of it (Forget and Lebel, 2001). However, this approach must take into account that the change from a very physically demanding lifestyle in natural outdoor settings, where our current genome was forged via natural selection, to an inactive indoor lifestyle is at the origin of many of the widespread chronic diseases that are endemic in our modern society (O'Keefe, J.H., et al., 2011). There is already some scientific evidence about added beneficial effects on mental and physical wellbeing, health related quality of life and long-term adherence to physical activity, with the participation in physical activity in natural environments compared with indoor physical activity (Thompson Coon, J., et al., 2011). Therefore, the natural territories are essential to our survival and in offering recreation and health services for many citizens, makes them happier and their bodies healthier. Complementary to outdoor recreational sports activity and considering the sustainability of our natural resources and environment, as well as looking for the improvement of health and well-being, outdoor projects can be developed to give the opportunity to tackle demanding physical working tasks that improve both health and the environment at the same time.

Since Geoparks are sustainable territories and considering the *Shimabara Declaration* from the *5th International UNESCO Conference on Geoparks*, it is possible to emphasize several roles that can be developed and implemented in geoparks, also as a crucial support in promoting healthy lifestyles, namely:

- As educators on climate change that should strive to become known as the best practice approach to utilizing renewable energy and employing the best standards of "green-tourism."
- In Natural Resource Management by informing about the sustainable use and need for natural resources, promoting respect for the environment and the integrity of the landscape.
- On the establishment of cooperation among local people, scientists, the tourism industry, municipalities and nations is indispensable for geoheritage conservation, education, tourism and management in the geoparks.

Walking constitutes an ideal physical activity in initiating a change in behaviour often needed to obtain health benefits, as it is accessible to all segments of the community and can be incorporated into daily routines. As consequence, the hiking trails use has become very popular for a wide variety of users and purposes (professional, recreational, health or educational purposes) and are a crucial infrastructure to achieve the roles of the geoparks. The aim of our paper is to suggest an interdisciplinary approach to be applied in geoparks that includes relevant information and proposes for a standardised survey and grading methodology, which can be employed to assess the ability of a hiking trail in promoting a healthy lifestyle. That approach was developed, in order to be improved in conjunction with recreation ecology research focused on developing new survey methods for assessing formal and informal trails or unsurfaced roads in the wilderness and backcountry settings (Marion, J.L., J.F. Wimpey, and L.O. Park, 2011). The interdisciplinary approach suggested, will contribute to promoting geoparks not only as an essential sustainable natural health service to support a healthier population but also with a solid understanding of the value of the natural territories that can help to reduce environmentally damaging behaviour and to preserve a healthy environment and healthy population.

#### **References:**

- Forget, G.L., Jean An ecosystem approach to human health. *International Journal of Occupational Environmental Health*, 2001. 7(2): p. S3-S38.
- Maller, C., et al., *Healthy parks, healthy people: The health benefits of contact with nature in a park context*. 2nd ed2008, Burwood, Melbourne: Deakin University.
- Marion, J.L., J.F. Wimpey, and L.O. Park, The science of trail surveys: Recreation ecology provides new tools for managing wilderness trails. *Park Science* 2011. 28(3): p. 60 - 65.
- O'Keefe, J.H., et al., Exercise Like a Hunter-Gatherer: A Prescription for Organic Physical Fitness. *Progress in Cardiovascular Diseases*, 2011. 53(6): p. 471-479.
- Thompson Coon, J., et al., Does Participating in Physical Activity in Outdoor Natural Environments Have a Greater Effect on Physical and Mental Wellbeing than Physical Activity Indoors? A Systematic Review. *Environmental Science & Technology*, 2011. 45(5): p. 1761-1772.
- Wilson, Edward O. 1984. *Biophilia*. Cambridge: Harvard University Press. ISBN 0-674-07442-4.

#### **Acknowledgement:**

This work is supported by European Union Funds (FEDER/COMPETE - Operational Competitiveness Programme) and by national funds (FCT - Portuguese Foundation for Science and Technology) under the project FCOMP-01-0124-FEDER-022696.