

Indicator: Perceived general health

Naturvation challenges: Economic development and decent employment

SDGs: 8

Reviewer & author: Sara Rocha, Central European University (CEU), Budapest

Date: 14.03.2019

Indicator description

The indicator “*perceived general health*” concerns the self-reported assessment of individuals about their general health status, covering both their physical and mental health. Perceived general health is relevant to the challenge of “Economic development and decent employment” as physical illness and emotional problems may affect work or interpersonal relationships and cause health-related costs.

The methods used to assess the indicator “perceived general health”, was in most of the studies measured through the use of questionnaires and surveys by asking respondents to estimate their general health on a scale, e.g. where 1 can mean bad or poor, up to 5 as excellent) (1 - 4, 6 – 13) or by the use of GIS/ remote sensing methods (e.g. landcover data to calculate exposure to various types of nature) (8, 13) and modelling methods (e.g. modelling of air pollution) (8, 12). Usually, statement indicators were used such as “*In general, would you say that your health is...*” (6), “*Would you say that in general your health is*” (1), “*In general, how would you evaluate your health?*” (10).

Indicator scoring

The search queries were composed of three query sets related to NBS terms, indicator topic and urban context. The values given to the indicators were based on selected scientific literature (16 papers), including 8 empirical studies (1, 2, 10, 15), 1 meta-analysis (5), 3 modelling studies (8, 9, 12) and 5 studies (3, 4, 6, 11, 16) with a mix of empirical and modelling methods. The proportion of studies that showed positive benefits for an NBS were used as a base for the scoring and distributed between scores ranging from 1 to 5 according to the proportions of positive impacts. Indications of negative impacts were noted here in the score document as a proportion of studies. When data for benefits of an NBS was not present in the literature it was denoted as no values found.

Scores, perceived general health		
Nature-based solution	Score	Proportions of positive /negative impact (number of studies)
Parks and (semi)natural urban green areas	4	0.63 / 0 (n = 8)
Urban green areas connected to grey infrastructure	5	0.8 / 0 (n = 3)
Blue areas	4	0.67 / 0 (n = 3)
External building greens	No score	No values found
Allotments and community gardens	5	1 / 0 (n = 4)
Green areas for water management	No score	No values found





References

- (1) Akpinar, A., Barbosa-Leiker, C. and Brooks, K. R. (2016) 'Does green space matter? Exploring relationships between green space type and health indicators', *Urban Forestry and Urban Greening*. Elsevier GmbH., 20, pp. 407–418. doi: 10.1016/j.ufug.2016.10.013.
- (2) van den Berg, A. E., Maasb, J., Verheij, R. A. and Groenewegen, P. P. (2010) 'Green space as a buffer between stressful life events and health', *Social Science & Medicine*. Elsevier Ltd. doi: 10.1016/j.socscimed.2010.01.002.
- (3) van den Berg, A. E., van Winsum-Westra, M., de Vries, S. and van Dillen, S. M. (2010) 'Allotment gardening and health: a comparative survey among allotment gardeners and their neighbors without an allotment', *Environmental Health*, 9(1), p. 74. doi: 10.1186/1476-069X-9-74.
- (4) Droomers, M., Jongeneel-Grimen, B., Kramer, D., de Vries, S., Kremers, S., Bruggink, J.-W., van Oers, H., Kunst, A. E. and Stronks, K. (2016) 'The impact of intervening in green space in Dutch deprived neighbourhoods on physical activity and general health: results from the quasi-experimental URBAN40 study', *Journal of Epidemiology and Community Health*, 70(2), pp. 147–154. doi: 10.1136/jech-2014-205210.
- (5) Gascon, M., Zijlemaa, W., Verta, C., Whited, M. P. and Nieuwenhuijsena, M. J. (2017) 'Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies'. Elsevier. doi: 10.1016/j.ijheh.2017.08.004.
- (6) Maas, J. (2006) 'Green space, urbanity, and health: how strong is the relation?', *Journal of Epidemiology & Community Health*, 60(7), pp. 587–592. doi: 10.1136/jech.2005.043125.
- (7) Purba, F. D. et al. (2018) 'Living in uncertainty due to floods and pollution: The health status and quality of life of people living on an unhealthy riverbank', *BMC Public Health*. BMC Public Health, 18(1), pp. 1–11. doi: 10.1186/s12889-018-5706-0.
- (8) Reid, C. E., Clougherty, J. E., Shmool, J. L. C. and Kubzansky, L. D. (2017) 'Is all urban green space the same? A comparison of the health benefits of trees and grass in New York city', *International Journal of Environmental Research and Public Health*, 14(11). doi: 10.3390/ijerph14111411.
- (9) Roe, J. J., Aspinall, P. A. and Thompson, C. W. (2017) 'Coping with stress in deprived urban neighborhoods: What is the role of green space according to life stage?', *Frontiers in Psychology*, 8(OCT), pp. 1–17. doi: 10.3389/fpsyg.2017.01760.
- (10) Ruijsbroek, A., Droomers, M., Kruize, H., Van Kempen, E., Gidlow, C. J., Hurst, G., Andrusaityte, S., Nieuwenhuijsen, M. J., Maas, J., Hardyns, W., Stronks, K. and Groenewegen, P. P. (2017) 'Does the health impact of exposure to neighbourhood green space differ between population groups? An explorative study in four European cities', *International Journal of Environmental Research and Public Health*, 14(6). doi: 10.3390/ijerph14060618.
- (11) Soga, M., Cox, D. T. C., Yamaura, Y., Gaston, K. J., Kurisu, K. and Hanaki, K. (2017) 'Health benefits of urban allotment gardening: Improved physical and psychological well-being and social integration', *International Journal of Environmental Research and Public Health*, 14(1). doi: 10.3390/ijerph14010071.
- (12) Triguero-Mas, M., Dadvand, P., Cirach, M., Martínez, D., Medina, A., Mompert, A., Basagaña, X., Gražulevičienė, R. and Nieuwenhuijsen, M. J. (2015) 'Natural outdoor environments and mental and physical health: Relationships and mechanisms', *Environment International*, 77, pp. 35–41. doi: 10.1016/j.envint.2015.01.012.
- (13) Ulmer, J. M. et al. (2016) 'Multiple health benefits of urban tree canopy: The mounting evidence for a green prescription', *Health and Place*, 42, pp. 54–62. doi: 10.1016/j.healthplace.2016.08.011.
- (14) De Vries, S. et al. (2013) 'Streetscape greenery and health: Stress, social cohesion and physical activity as mediators', *Social Science and Medicine*. Elsevier Ltd, 94, pp. 26–33. doi: 10.1016/j.socscimed.2013.06.030.
- (15) Wang, X., Rodiek, S., Wu, C., Chen, Y. and Li, Y. (2016) 'Stress recovery and restorative effects of viewing different urban park scenes in Shanghai, China', *Urban Forestry and Urban Greening*. Elsevier GmbH., 15, pp. 112–122. doi: 10.1016/j.ufug.2015.12.003.



- (16) Ward Thompson, C., Aspinall, P., Roe, J., Robertson, L. and Miller, D. (2016) 'Mitigating stress and supporting health in deprived urban communities: The importance of green space and the social environment', *International Journal of Environmental Research and Public Health*, 13(4). doi: 10.3390/ijerph13040440.