

Global Health Day

Survey development to measure the awareness and acceptance of the health benefits of nature

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Climate change and urbanization pose great risks for global health and wellbeing. In urban areas, impermeable surfaces like concrete and asphalt exacerbate the effects of climate change contributing to heat islands, flooding, and pollution, which increases morbidity and mortality. Increased urbanization also decreases access to green spaces which negatively impacts both physical and mental health as well. The presence of urban green and blue spaces and green infrastructure (hereafter “greenspaces”) can promote public health directly through exposure as well as indirectly, by mitigating the effects of climate change.

There is increasing evidence that physical activity in greenspaces, as opposed to man-made or “grey” spaces, can increase mental wellbeing and focus, and decrease negative emotions, depression, anxiety, and cardiometabolic problems including coronary heart disease, diabetes, and high blood pressure. However, open spaces, parks, and green infrastructure often are viewed as amenities rather than essential items for public health. Many land management organizations at various governmental levels have begun to cite the individual health benefits of nature to leverage support for the creation and protection of parks and other greenspaces, and in general, increase pro-environmental behavior. Behavioral modification research indicates that personal acceptance rather than knowledge of scientific evidence is more likely to sway individual decision-making. However, the extent of the public's awareness of the health benefits of greenspace or acceptance of these benefits is unknown.

While some instruments measure environmental attitudes and affinities, none measures the general public's awareness or acceptance of the health benefits of greenspaces. Therefore, we aim to create a survey instrument that can measure both the awareness of existing scientific evidence and the acceptance of that evidence. Without such a tool, land management and governmental organizations are unable to determine how the health benefits of greenspace might be used as an incentive to increase support for environmental protection, restoration, and green infrastructure projects, which could augment public health. A systematic literature review was used to identify peer-reviewed reports of the mental and physical health benefits of engaging with greenspace. This led to the generation of items reviewed and ranked by experts via a Qualtrics survey. A nonrandomized convenience sample of participants (n=65) was recruited internationally via direct contact and snowball recruitment using Dillman's modified Tailored Design Method for Electronic Surveys. Respondents were asked to evaluate and rank fifteen items based on the robustness of substantiated evidence. Once data saturation is reached and the ranking is statistically validated, the top ranked items will be used to construct a survey to assess the public's awareness and acceptance of the evidence for health benefits of nature. This

public survey will be used in conjunction with other tools assessing environmental identity and pro-environmental behavior to determine if personal or public health is a useful motivation to support nature conservation, preservation, and restoration, and in the long-term the mitigation of the effects of climate change.

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