

Title

An experimental study on emotional pathways linking coastal landscapes with stress reduction and pro-environmental behaviors

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Abstract

Natural environments, and particularly coastal landscapes, are shown to have beneficial effects on mental well-being and pro-environmental behaviors. The emotional pathways explaining these effects remain largely ambiguous, as well as how these effects differ according to one's income. We conducted a pre-registered online experimental study (1) to examine the effects of exposure to coastal landscapes on stress and pro-environmental behaviors, compared to an urban landscape, and (2) to assess the emotional experience of awe (feelings of small self), nostalgia, and nature connectedness as potential mediators. Participants were randomly assigned to watch a video-clip of either (1) a beach with a sunset, (2) coastal dunes, or (3) an urban street (control condition). Participants reported their stress level before and after watching the video-clip. We also evaluated their emotions and pro-environmental behaviors after they watched the video-clip. A total of 494 Dutch-speaking adults, from different age, education, and income groups, took part in the study. Results demonstrate that both coastal videos led to a higher stress reduction, compared to the urban video. This was fully mediated by nostalgia ($p = .008$) and nature connectedness ($p = .001$), but not by feelings of small self ($p = .58$). Pro-environmental behavior was not significantly affected by the coastal videos, nor by the evaluated emotions. Exploratory analyses of a moderated mediation effect of income demonstrate that nostalgia mediates the effect of the coast on stress reduction, only for those with no income. Our study provides novel evidence of

complex emotions explaining the benefits of the coast on stress, thereby improving our understanding of how the coast can promote mental well-being and showcasing the need for (re)connection to natural environments.