

Psychological restoration capacity of coastal environments and attributes by picture assessment

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Scientific literature suggests that visiting the coast is restorative. This means that the coast would recharge psychological capacities, which are necessary to deal with everyday challenges and demands. However, the coast is spatially heterogeneous and it is unclear which coastal environments have the highest restoration potential. The current research investigates the restoration capacity of the beach, dunes, coastal towns, recreational and big harbours, piers, historical places, and green space (consisting of only trees, grass, and shrub). An additional aim of this study is to reveal the impact of certain environmental attributes on the restoration capacity, such as the presence of garbage, cars, benches, or beach cabins. To do so, we compiled a set of 112 pictures, taken along the Belgian coast, to capture the multitude of combinations between coastal environments and attributes (two replicates for each environment-attribute combination were provided). The pictures were shown to the participants on a flat screen in a standardized experiment room. Participants were 44 employees (mean age \pm SD = 32.5 \pm 10.8 years, 45% males) of the Flanders Marine Institute that were recruited by e-mail and personal contact. Each participant rated the pictures for three items of the Perceived Restorativeness Scale (PRS, i.e. overall restoration potential, fascination, and being-away). After evaluating the pictures, participants completed a demographic and lifestyle-related questionnaire, which assessed similar covariates as in earlier studies, i.e. age, gender, income, chronic disease, BMI, nationality, education, and smoking behaviour. The scores of all three PRS items were standardized for these demographic and lifestyle-related covariates. In addition, the questionnaire also assessed the residential proximity to the coast and mental health (Burnout Assessment Tool, BAT scale). Preliminary results of this pilot experiment revealed the following. (1) Green space has the highest overall restoration potential, followed by dunes and beaches. Coastal towns, harbours, and dikes had lowest scores for overall restoration potential. (2) The presence of garbage or cars was associated with reduced overall restoration potential, fascination, and being-away factors. This reduction most pronounced in more natural areas, such as beaches, but less in the least restorative environments such as coastal towns. (3) Burnout risk and residential proximity to the coast were generally associated with lower scores for the overall restoration potential and being away, but with higher scores for fascination. (4) Finally, this study revealed that picture content (e.g. amount of sky visible, amount of people present) greatly influenced the restoration capacity of an environment. Although clear patterns were distinguished between the restoration potential of different coastal environments, we consider our outcomes indefinite because of the preliminary nature of this experiment. Nevertheless, the novel information gathered in this pilot experiment enables the authors to prepare an upgraded version of this experiment. This includes better-standardized pictures and an upgraded set of covariates.

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