

Mindful at the sea: effect of engagement interventions at the coast on emotions, well-being, and pro-environmental behavior

Severin Marine¹, Mertens Lore², Gündüz Onur², Van der Gucht Katleen³, Everaert Gert¹, Buysse Ann⁴ and Raes Filip²

¹ Research department, Flanders Marine Institute (VLIZ), InnovOcean Campus, Jacobsenstraat 1, 8400 Oostende, Belgium
E-mail: marine.severin@vliz.be

² Centre for the Psychology of Learning and Experimental Psychopathology, KU Leuven, Leuven, Belgium

³ Leuven Mindfulness Centre, KU Leuven, Leuven, Belgium

⁴ Department of Experimental Clinical and Health Psychology, Ghent University, Ghent, Belgium

Virtual exposure to coastal environments can have beneficial effects on mental well-being and pro-environmental behavior. However, few studies have investigated the effects of real-life exposure and our understanding of how to maximize the potential benefits of the coast remains limited. Recent research suggests that being mindfully engaged during exposure to nature can enhance its restorative effects and increase nature connectedness and feelings of awe.

In this preregistered study, we aimed to investigate the effect of real-life exposure to the coast (vs. an urban landscape) on stress, worry, and mood, as well as pro-environmental behavior. Additionally, we aimed to evaluate differential effects of mindful engagement vs. mind-wandering vs. distraction at the coast. A total of 77 adults (22 to 78 years old) participated in a 20-minute guided walk at the beach or in an urban street. Those walking at the beach were instructed to either be mindful of their surroundings (mindful engagement; $n = 18$), let their mind wander (mind-wandering; $n = 20$), or engage in mental visualization tasks (distraction; $n = 19$). Those walking in the urban street ($n = 20$) received the same instructions as the distraction group. Participants were asked to report their perceived stress, worry, and mood before and after the walk. Pro-environmental behavior was measured with the use of the Work for Environmental Protection Task (WEPT; Lange & Dewitte, 2022), after the walk.

Non-parametric statistical tests did not reveal significant group differences in stress or worry reduction, nor in changes in positive or negative mood. However, it is worth noting that effect sizes ranged from small to medium, suggesting a lack of statistical power due to the small sample size. Performance on the WEPT did not significantly differ between groups. Exploratory one-way analyses of covariances did demonstrate that during the walk, the distraction group exposed to the urban landscape significantly experienced less awe compared to the mind-wandering (-26%) and mindful engagement (-25%) groups exposed to the beach. The urban distraction group also experienced less nature connectedness (-18%) and less adaptive emotion-regulating strategies (-14%) than the mindful engagement group (large effect sizes). The experience of nostalgia did not significantly differ between groups, but the effect size was medium.

Taking the effect sizes into consideration, we suggest to replicate the study with a larger sample size (i.e., >180 participants). Our exploratory results indicate that being mindfully engaged at the coast enables to experience the valuable emotion of awe, feel more connected to nature, and regulate our emotions. Further research should consider not only the type of environments that benefit our mental health, but also under which conditions these benefits can be optimized.

Reference

Lange, F., & Dewitte, S. (2022). The Work for Environmental Protection Task: A consequential web-based procedure for studying pro-environmental behavior. *Behavior Research Methods*, 54(1), 133–145. <https://doi.org/10.3758/s13428-021-01617-2>

Keywords

Restorative Environments; Well-being; Pro-environmental Behavior; Emotions; Mindful Engagement; Real-life Exposure