

Exposure and connectedness to natural environments: an examination of The measurement invariance of the nature exposure scale (nes) and Connectedness to nature scale (cns) across 65 nations, 40 languages, Gender identities, and age groups

ABSTRACT

Detachment from nature is contributing to the environmental crisis and reversing this trend requires detailed monitoring and targeted interventions to reconnect people to nature. Most tools measuring nature exposure and attachment were developed in high-income countries and little is known about their robustness across national and linguistic groups. Therefore, we used data from the Body Image in Nature Survey to assess measurement invariance of the Nature Exposure Scale (NES) and the Connectedness to Nature Scale (CNS) across 65 nations, 40 languages, gender identities, and age groups (N = 56,968). While multi-group confirmatory factor analysis (MG-CFA) of the NES supported full scalar invariance across gender identities and age groups, only partial scalar invariance was supported across national and linguistic groups. MG-CFA of the CNS also supported full scalar invariance across gender identities and age groups, but only partial scalar invariance of a 7-item version of the CNS across national and linguistic groups. Nation-level associations between NES and CNS scores were negligible, likely reflecting a lack of conceptual clarity over what the NES is measuring. Individual-level associations between both measures and sociodemographic variables were weak. Findings suggest that the CNS-7 may be a useful tool to measure nature connectedness globally, but measures other than the NES may be needed to capture nature exposure cross-culturally.