

TITLE: The Psychophysiological Benefits of Exposure to Nature Among Socially Disadvantaged Individuals with High Stress Susceptibility

AUTHOR(S): Aaron M. Eisen; Hector A. Olvera Alvarez

PRESENTER(S): Aaron M. Eisen

STUDENT SUBMISSION: Yes

TOPIC/TARGET AUDIENCE: Topic: Nature Exposure, Greenspace, Social Health Disparities, Social Disadvantage, Stress Recovery, Stress Susceptibility, Socio-Environmental Research, Experimental, Virtual Reality Audience: Researchers & Policy Makers

ABSTRACT: Background: Epidemiological evidence has demonstrated that nature exposure is associated with a reduced risk of negative health outcome (e.g., cardiovascular disease) to a greater degree among socially disadvantaged populations relative to more privileged groups. Purpose: Therefore, to explore a potential mechanism underlying this phenomenon, we tested the effects of virtual nature exposure on acute stress recovery in an experimental paradigm among socially disadvantaged individuals with varying degrees of stress susceptibility. Methods: After an acute stressor, participants (n = 95) experienced a 20-min virtual reality exposure (i.e., one of two natural environments or an office environment) and subsequently a 40-min recovery period. Acute stress recovery was assessed via heart rate variability. Hierarchical regression was used to explore interactions between stress susceptibility and environmental exposures on stress-induced changes in heart rate variability. Results: We found greater recovery after virtual exposure to natural environments, relative to an office environment, among individuals with higher stress susceptibility. Conclusion: We provide the first experimental evidence that nature exposure enhances acute stress recovery disproportionately among stress susceptible individuals. Implication: While this evidence is limited, it supports the notion that nature interventions at the public health level may reduce health disparities (e.g., cardiovascular disease) among disadvantaged populations.

OBJECTIVE(S): Assess the current state of evidence, future directions, and implications regarding the potential of nature-based interventions at the public health level to partially mitigate health disparities (e.g., cardiovascular disease) among socially disadvantaged populations.
