

Sustainability | Individual communication

IC - (20869) - IMPACTS OF EXPOSURE TO 360° VIDEOS OF NATURE IN THE CITY ON EMOTIONS, HEART RATE VARIABILITY AND ATTENTION RESTORATION.

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Background and objectives

The introduction of nature in the city can be a response to mitigate the deleterious consequences of climate change in urban contexts. Furthermore, positive links have been demonstrated between experience with nature and positive emotions (e.g. McMahan and Estes, 2015), heart rate variability (e.g. Farrow & Washburn, 2019), and attention restoration (e.g. Stevenson et al., 2018).

The objective of this study, is to measure the impact of nature in the city on emotions, parasympathetic nervous system and attention restoration in a controlled experimental study with a head-mounted display.

Process and methods (for empirical research)

A pre-registration of the hypotheses was carried out (<https://osf.io/jg8ry>).

We manipulated the level of naturalness of 4 urban environments to be projected in a head-mounted display. These environments were filmed with a 360° camera.

Each participant is randomly exposed to one of the 4 recordings and performs a pre and post test measurement of heart and respiratory rate, of self-reported positive and negative affects (Congard et al., 2011), and of a Sustained Attention to Response Task (SART; Robertson et al., 1997).

Main results (or main arguments in the case of critical reviews)

The end of data collection is scheduled for February 2022.

The following results are expected:

Compared to the control group, the participants in the virtual urban natural groups would demonstrate

1. a significant increase from pre-test to post-test in self-reported positive affects and significant decreases in self-reported negative affects, number of SART errors and mean SART response time.
2. a significant increase from baseline to exposure in Heart Rate Variability (assessed by RMSSD and pNN50).
3. significantly less number of fixations and more fixation time.

Implications for research and practice/policy | Importance and originality of the contribution

This study focuses on the impact of nature on psychological well-being in a specifically urban setting. By its experimental design, it will provide a significant level of evidence if the hypotheses are verified.

Palavras-chave : Nature in the city, attention restoration theory, emotions, eye tracking, heart rate variability, virtual reality