

# Seeing, thinking, feeling: Exploring free associations with (non)restorative pictures

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## Introduction

Research has demonstrated that nature has a restorative effect on human beings. Viewing nature can increase mood, cognitive performance, and directed attention, while reducing stress levels and negative affect (e.g., Hartig, et al., 1991; Berman & Jonides, 2008). Yet both current theories explaining these effects (Ulrich et al., 1991; Kaplan, 1995) still leave quite a few questions on the underlying mechanisms unanswered.

Efforts to investigate these mechanisms included methodologies such as continuous psychophysiological recordings (Hartig, et al., 1991), affective priming (Korpela, et al., 2002), or eye-tracking (Parsons & Olson, 1998). In the current study we investigated the free associations of viewers of natural vs. urban pictures as a first step on an avenue towards more insight in the restorative effects of nature. Very little research focused on the role of associations, yet learned positive associations with nature have been suggested in relation to restoration (Ulrich et al., 1991). Also, ART's components *fascination* and *being away* (Kaplan, 1995) both suggest the mind is drawn away from current worries or tasks – but where to? Our study aimed to answer this question.

## Method

The study, following a within groups design (nature vs. urban vs. control) consisted of four stages. Forty participants first reported their mood, state self-control and need for restoration. Then they produced minimally five free associations with each of twelve pictures (four natural, four urban, four fillers). After this, they evaluated all of their associations on 5-point scales ranging from 'very negative' to 'very positive'. In the fourth phase, participants viewed all pictures again, rating perceived restorativeness and

their preference. A closing questionnaire probed connectedness to nature and demographic variables.

## Analyses and Expectations

Data collection is currently in progress. On the free associations we will perform a two-stage content analysis: first categorizing the associations into activities, emotions, or objects; then qualifying activities as socially, physically, and/or mentally demanding, and emotions according to the circumplex model.

Qualitative and quantitative analyses will explore the differences between associations to natural vs. urban stimuli, and the relations between associations and the restorativeness of and attitude towards these stimuli. We hypothesize that nature is associated with more positive emotions and activities that are less mentally demanding. These relationships may depend on connectedness to nature and need for restoration.

## References

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