The effect of screen size on photo-based landscape evaluations.

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Introduction

Photographic representations as a substitute for on-site experience of landscapes are common in research on human evaluations of landscapes. Photo-based studies provide experimental control and also make it possible to study future landscapes using simulation techniques. There is however an ongoing discussion concerning the validity of photo-based studies. Various types of representations have been used (such as normal photographs, panoramic photographs and videos) but the results concerning validity are inconsistent and point to a more complex relationship between stimuli and evaluations (Daniel & Meitner, 2002; Hull & Stewart, 1992; Shuttleworth, 1980; Stamps, 1990). Environments are often shown in small formats, which might not be suitable for all evaluations.

Methods

We compared evaluations of forests with low, medium and high biodiversity when viewed on a normal computer screen and on a 7x3m curved display in a virtual reality theater. We expected that the large curved screen would provide a sense of being in the environment rather than looking at the environment, and that this would elicit stronger responses. 42 students (21 for each viewing condition) evaluated the forest images using the Basic Emotional Qualities scale, where subjects are asked to judge how they would feel after having spent an hour in the environment presented. The scale is based on the Human–Environment Interaction model (HEI) developed by Küller (1991), which describes a basic emotional process that involves the components activation, (e.g. alert/sleepy), orientation (e.g. interested/bored), evaluation (e.g. happy/sad) and control (e.g. confident/hesitant).

Results

For each forest type, an index of all the rated adjectives was computed for each subject. Repeated Measures ANOVA was used, with diversity as the within subjects factor and the screen as the between subjects factor. There was a significant effect of diversity but not of screen condition. The interaction effect of diversity and screen was not significant, but interesting differences were observed. The forest with high diversity had a higher score in the large screen condition than in the small screen condition. For the low diversity forest the situation was the opposite. The forest with middle diversity was not affected by screen condition.

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