

Framing well-being: The combined beneficial effects of daylight and a natural view on health, mood, and cognitive performance of office employees

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Introduction

Windows bring us both daylight and a view to the outside. Research has indicated that views of natural environments can improve cognitive performance, mood, and health (Tennessen & Cimprich, 1995; Kaplan, 1993); similar effects have been found for daylight entrance (Boyce et al., 2003). However, these studies have generally considered the contribution of either daylight or view content, while a combined beneficial effect of natural views and daylight can be expected and in naturalistic settings may be confounded. This research will aim to answer the following question: *What is the combined effect of daylight entrance and view content through windows on indicators of health, mood, and cognitive performance?* For this purpose, we have conducted a field study among office employees at the campus of the Eindhoven University of Technology. The unique contribution of this study is twofold. First of all, very little to no research has simultaneously studied the effects of daylight and a view. Secondly, by conducting a field-study we ensured high ecological validity.

Method

The research consisted of two stages. In the first stage experimenters visited employees in their offices to administer a questionnaire and to record characteristics of the office. Each visit lasted approximately ten minutes. Office characteristics included the number of natural decorations, whether the artificial lighting was on, orientation and size of the window, the presence of sunspots, and where the subjects were seated relative to the window. Furthermore, a picture was taken of the view for later categorization and illuminance was measured both at the level of the eye and of the desk. The questionnaire

probed both current mood and usual mood at work as well as evaluations of their window. Mood was measured along four dimensions (energetic arousal, tense arousal, valence, and activation). Furthermore, the Necker Cube test was added to measure directed attention capacity. Information about possible covariates (e.g., the task and amount of social interaction subjects engaged in prior to the study) were also obtained. During the second stage, participants completed an additional internet survey. This survey measured overall health, need for restoration, stress, sleep quality, seasonal patterns in affect, and trait self-control.

Analysis and expectations

Data collection and analysis is still ongoing. Hierarchical Linear Model analyses will be conducted for two different timeframes, namely momentary and overall measures. Dependent variables will be mood, health, and performance on the Necker Cube test. Predictor variables in the momentary model will include illuminance levels and the presence of sunspots; the overall model will include orientation and size of the window. In addition, both models will include categorizations and assessments of the view. We expect that at both timeframes the naturalness of the view as well as the amount of daylight entrance will positively influence all dependent variables.

References

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