

## **Sustainability | Individual communication**

### **IC - (20843) - ARE PEOPLE MORE RELAXED AND FEEL BETTER IN THE WOODEN OFFICE ROOM? – RESULTS FROM A RANDOMIZED CONTROLLED TRIAL**

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#### **Background and objectives**

People's lives are increasingly lived indoors, as work, study, and free-time activities take largely place in indoor environments. Recent research has been looking ways to study how indoor design or building materials could improve human well-being. Research evidence shows that wood is experienced as pleasant material to see, touch and smell. There is also some evidence that being in a wooden room decreases the activity of the sympathetic nervous system. The objective of this study was to investigate the restorative effects of short-term visits in a wooden room compared with a control room after raising baseline stress and performing cognitive tasks.

#### **Process and methods (for empirical research)**

The effects of wooden interior were studied using a randomized controlled trial with a cross-over design (n=61) where participants performed office-work resembling cognitive tasks followed by resting period in a room with wooden elements as well as in a control room with no wood. The results were analysed using a Bayesian approach.

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

More positive and less negative emotions, in particular anxiety, were reported in the wooden room as measured by psychological scales. Performance in sustained attention to response task was similar in both rooms, however, there was an indication that the participants make fewer mistakes in the wooden room (93.6 % posterior probability). Contrary to expectations, the high-frequency band of heart rate variability was lower in the wooden room, indicating the activation of the sympathetic nervous system. The difference was the largest at the beginning and end, while disappearing during cognitive performance.

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

The productivity of knowledge work is influenced by individual, social, and physical aspects. In this study, the positive effects of wooden room on human well-being were clear, especially supported by psychological measures results. This study serves as a good basis for new research and strengthens the scientific evidence of indoor materials that support well-being.

**Palavras-chave : wood, office, heart rate, well-being, restoration, cognitive performance**