Intense Blue Light Improves Sleep Quality and Well-Being within Daily Life Settings

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Purpose: Can intelligent lighting within homes and offices prevent us from fatigue and sleepiness throughout the autumn period? Deficits of current lighting research regarding direct and indirect the effects on the human system are so far restricted by laboratory findings of activating light of daily life conditions. Methodology: The randomized controlled trial, single blind study took place in the context of a hotel stay. A between-subject design (84 healthy individuals with no ophthalmic diseases, color blindness or extreme chronotype) was conducted, The participants were randomly assigned to an experimental group (n=44; 27 female) and a control group (n=40; 28 female). Latest LED technology in the reconstructed areas of the hotel was used to match intensity and spectrum of the light installation to the specific times of the day in order to have an activating impact during the day and a de-activating impact in the evening. Results: The results show reduced level of stress, fatigue and discomfort in the experimental light condition. The quality of sleep is increased as measured by reduced restlessness and fewer disturbances during the night. Moreover, melatonin is increased before bed-time and decreased in the wake up time.

Ignoring sound: Repeated exposure reduces disruption of serial recall

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Examining whether disruption of serial recall by task-irrelevant sound is attenuated after repeated exposure to the auditory distractors helps to solve the question to which extent attentional processes are involved in the changing state irrelevant sound effect. In a series of four experiments, the disruptive effects of to-be-ignored speech and music relative to a quiet control condition were markedly reduced after eight repetitions, regardless of whether trials were presented in blocks (Experiment 1) or in a random order (Experiment 2). Further, the auditory distractor's playback direction (forward, backward) had no effect (Exp. 3). The very same results were obtained when the auditory distractors were only presented in a retention interval after the presentation of the to-be-remembered items (Experiment 4). This pattern is only consistent with theoretical accounts that allow for attentional processes to interfere with the maintenance of information in short-term memory.