

## Poster

# Experiencing Light: Review of Light's Impacts on Human Health

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### Introduction

The light bulb's dissemination in 1879 initiated the study about photometric units, calculation methods and illumination's levels in order to ensure adequate illumination. During almost 20th century, this practice has adopted quantitative criteria instead of qualitative. The understanding that quantity does not necessarily imply quality is relatively new on the agenda of organizations dedicated to the study of lighting. This study aims to show the relationship between lighting and health by showing the concepts pointed by some researchers, checking how they understand the light's importance on building and also on human health: mind and body. The proposed study is part of a doctorate in which has been evaluated in practice/scientifically how light affects the hospital resident's health (psychological and physiological) from Hospital das Clínicas/Campinas/Brazil.

### Method

It was analyzed publications since 1920's to the present day, making use of datacenters like Medline, Science Direct, virtual collections from UNICAMP and specific books: architecture, medical specifications.

### Result and Discussion

People feel healthy through the existence of many factors and every kind of edification has characteristics that may affect the occupants' health, like lighting conditions. According to Boyce (2006), the light effects in humans fall into three classes: i. the optical radiation that can be damaged when exposure to light for a long period; ii. the visual system and the possibility of darken and visual discomfort; iii. the circadian system and the sleep-wake cycle, cause light is essential also to the perception system. These four

important items links our visual, task and human performances by considering their relation between: biological rhythms; emotional variables (depression, anxiety, stress); hormonal levels (melatonin, cortisol); and physiological functions (sleep and neural performance). Proving that daylight can positively contribute to the human body helping to: relieve seasonal depression, improve sleep's quality and workers performance, regulate hormones. However, its absence results in negative consequences such as depression feelings, sleepiness, sadness, irritability, lack of interest of usual activities (FOSTERVOLD et al, 2010; SATER, 2010; BOYCE, 2006). Lighting becomes so one of the main determinants of environmental quality.

### Conclusion

Those informations suggests the need of further development, which will only be effective by interdisciplinary, given its extreme complexity. There is a long path to follow in order to answer those questions and search for spatial conditions appropriate to our needs without interfering in our health.

### References

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