

Applicable Biophilic Principles on Hospitals Retrofitting

The Case Study of Turkish Public Hospitals

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ABSTRACT:

The UNEP's reports are seeking to promote the isolated relationship of human and nature in health care's architectural spaces due to their emerged social and environmental sustainability challenges in recent years. Chief of it is reviewed and proved low satisfaction level from hospitals architectural spaces being low thermal, visual, lighting and acoustic comfort levels. Nowadays architectures of health care services by integrating architectural spaces with nature, in any possible way, have succeeded to improve a large part of these problems from following the bionic principles to generating healthy, productive and therapeutic spaces. Accordingly, this research project by focusing on built health centers and surveying and analyzing their social problems, as a novel project, will present bionic-based retrofitting solutions. One possibility is applying Biophilic principles. Biophilic is an innovative and growing design method of architectural spaces within which we live, work, learn, and heal up. Specifically this research project explores the novel ideas in favor of revitalizing built public health centers incorporating Biophilic design patterns. This paper presents the part of an executive research project and will consist in: 1) a literature review of two similar projects which have been composed by Biophilic principles and 2) presenting applicable solutions in order to optimize the comfort levels in healthcare centers in turkey. The mentioned literature review will highlight the outcomes of Biophilic principles on both financiers and users. The Khoo Teck Puat Hospital (KTPH) in Singapor and the modern Altunizade Acibadem Hospital of Istanbul are case studies which have been selected using General Morphological Analysis (GMA) and will be analyzed by applying WELL building standards and using Multi-Criteria Decision Making methodology. Then, research team by presenting design solutions will specify the Biophilic method's 14 principles of which can be effective while optimizing built hospitals sustainability.

KEYWORDS: Biophilic Design, Existing hospitals, Turkey, WELL Building Standard.

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AUTHORS BIO:

SAEID HABIBI

Currently, a second-year architectural-technology PhD student at UPC, Barcelona, Spain.

I have five years progressive on-site and off-site experience in numerous project including electrical installations, executive supervisor, and/or architectural-design team leader for several companies in Iran and Turkey from 2011 to 2016.

I was an architectural advisor for Mahan International Commercial Real Estate from 2014 to 2016.

While earning master's in architectural technology, I worked on Islamic patterns as well as a project to optimize university-student satisfaction publishing my research projects at Iranian conferences including "The Relationship Between Leisure Time and Satisfaction Level of Students, Iran, Tourism and Urban Identity".

I am currently doing my doctoral research in hospital façades and intelligent materials.

BEHNAZ AKRAMI

I have recently graduated with my master degree in architectural design from Istanbul Technical University, Istanbul, Turkey.

I did my bachelor project about hospital design and then, I have improved my research study about sustainable healthcare architecture in higher education and have submitted papers about impacts of sustainable hospital design on patient's treatment processes and also publishing my research project at Istanbul conference including "Investigating the Methods for Using Sustainable Architecture in Hospital Design in Istanbul; Eco-Friendly Cities for Everyone book". Hence, during that time, I was familiar with Biophilic design, Neurobiophilia terms and doing my master thesis in relating healing environment and biophilic design in healthcare architecture.

From 2014 to 2017, I had a variety of experiences in diverse projects as an interior designer, executive supervisor in several companies in Istanbul. Also, I worked for two years in Azerbaijan municipality as an architectural-design team leader in Iran from 2011 to 2014.