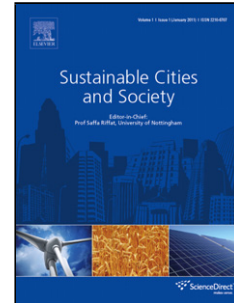


## Accepted Manuscript

Title: A comprehensive review of thermal adaptive strategies in outdoor spaces

Authors: Salman Shooshtarian, Priyadarsini Rajagopalan, Amrit Sagoo



PII: S2210-6707(18)30361-5  
DOI: <https://doi.org/10.1016/j.scs.2018.06.005>  
Reference: SCS 1139

To appear in:

Received date: 28-2-2018  
Revised date: 6-6-2018  
Accepted date: 6-6-2018

Please cite this article as: Shooshtarian S, Rajagopalan P, Sagoo A, A comprehensive review of thermal adaptive strategies in outdoor spaces, *Sustainable Cities and Society* (2018), <https://doi.org/10.1016/j.scs.2018.06.005>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**A comprehensive review of thermal adaptive strategies in outdoor spaces****A COMPREHENSIVE REVIEW OF THERMAL ADAPTIVE STRATEGIES IN OUTDOOR SPACES****Salman Shooshtarian<sup>1</sup>, Priyadarsini Rajagopalan<sup>1,2</sup>, Amrit Sagoo<sup>3</sup>***<sup>1</sup>School of Property, Construction, and Project Management, RMIT University, Melbourne, Australia**<sup>2</sup>Sustainable Building Innovation Laboratory (SBI Lab), RMIT University, Melbourne, Australia**<sup>3</sup>Department of Civil Engineering, Architecture and Built Environment, Coventry University, Coventry, UK***Highlights**

- This paper presents the critical analysis of literature on thermal adaptive strategies in outdoor spaces
- These strategies are classified as environmental and technological modification, behavioural adjustments, and psychological adaptation
- The outcome of this review is expected to inform policies governing urban developments and management of outdoor spaces

**Abstract**

Urbanisation has replaced vegetation and natural spaces with hard and impervious surfaces and this transition in cities has led to a sequence of adverse events in urban ecosystems across the world. The use of outdoor spaces is highly dependent on climatic conditions. Thermally uncomfortable outdoor spaces may discourage participation in outdoor activities and increase indoor energy consumption. Therefore, it is necessary to understand and adopt thermal adaptive strategies to provide appropriate thermal conditions for urban residents. A number of studies that review the literature on different thermal adaptive strategies exist. However, the existing reviews lack comprehensiveness, often present results which are mixed with simulation and field studies, recommended strategies suitable for certain climate conditions or are not properly structured. Therefore, this study intends to present a critical analysis on the thermal adaptive strategies that are advisable for outdoor spaces. This review is structured around the Adaptation to Outdoor Climate (AOC) model containing three clusters of adaptive strategies: (a) “environmental and technological modifications”, (b) “behavioural adjustments” and (c) “psychological adaptation”. Reviewing mostly recent studies, this paper aims to shed light on the cutting-edge knowledge on improving outdoor thermal comfort conditions.

Download English Version:

<https://daneshyari.com/en/article/6774816>

Download Persian Version:

<https://daneshyari.com/article/6774816>

[Daneshyari.com](https://daneshyari.com)