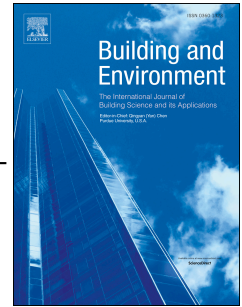


Accepted Manuscript

Assessing visitors' thermal comfort in historic museum buildings: Results from a Post-Occupancy Evaluation on a case study

Antonio Martinez-Molina, Paola Boarin, Isabel Tort-Ausina, José-Luis Vivancos



PII: S0360-1323(18)30069-6

DOI: [10.1016/j.buildenv.2018.02.003](https://doi.org/10.1016/j.buildenv.2018.02.003)

Reference: BAE 5287

To appear in: *Building and Environment*

Received Date: 16 November 2017

Revised Date: 30 January 2018

Accepted Date: 4 February 2018

Please cite this article as: Martinez-Molina A, Boarin P, Tort-Ausina I, Vivancos José-Luis, Assessing visitors' thermal comfort in historic museum buildings: Results from a Post-Occupancy Evaluation on a case study, *Building and Environment* (2018), doi: 10.1016/j.buildenv.2018.02.003.

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.

1 **ASSESSING VISITORS' THERMAL COMFORT IN HISTORIC**
2 **MUSEUM BUILDINGS: RESULTS FROM A POST-OCCUPANCY**
3 **EVALUATION ON A CASE STUDY**

4 Antonio Martinez-Molina^{a*}, Paola Boarin^b, Isabel Tort-Ausina^c, José-Luis
5 Vivancos^d

6 ^aUniversitat Politècnica de València, Camino de Vera s/n, 46022 Valencia, Spain.

7 ^bSchool of Architecture and Planning, Faculty of Creative Arts and Industries (CAI), University of Auckland,
8 26 Symonds Street, 1010 Auckland, New Zealand.

9 ^cDepartment of Applied Physics, Universitat Politècnica de València, Camino de Vera s/n, 46022 Valencia,
10 Spain.

11 ^dDepartment of Engineering Projects, Universitat Politècnica de València, Camino de Vera s/n, 46022
12 Valencia, Spain.

13 * *Corresponding Author.*

14 **Abstract:** Adaptive reuse of historic buildings as museums is an effective strategy for
15 retaining heritage architectures while achieving environmental sustainability objectives.
16 Building adaptation, retrofitting and preserving optimal environments for artwork and
17 exhibit preservation are inherently complex, multifaceted tasks. However, indoor
18 microclimates do not only affect collections; occupants and visitors must also be
19 considered. The aim of this research is to explore whether artwork preservation
20 constraints in reused historic building affect patrons. The authors thereby promote a
21 more comprehensive approach, combining the objectives of exhibit conservation,
22 preservation of heritage buildings and adequate indoor conditions, particularly thermal
23 comfort. Data was gathered using the Post-Occupancy Evaluation process applied to a
24 case study where a combination of microclimate monitoring and questionnaire surveys
25 was carried out over a 12-month period. Results demonstrate that: i) the existing
26 microclimate did not always provide visitors with adequate thermal conditions, showing
27 dissatisfaction during the cooling season (July-September), with average TSV values
28 ranging from -1.03 to -1.13; ii) TSV and PMV values were significantly divergent
29 throughout the year, with TSV mainly included within the (-1, 0, +1) band and PMV
30 mainly within the (0, -2) band; and iii) questionnaires show that visitor choice of clothing

Download English Version:

<https://daneshyari.com/en/article/6697935>

Download Persian Version:

<https://daneshyari.com/article/6697935>

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