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POST-OCCUPANCY EVALUATION OF A HISTORIC PRIMARY SCHOOL IN SPAIN: COMPARING PMV, TSV AND PD FOR TEACHERS' AND PUPILS' THERMAL COMFORT

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Abstract: With attention increasingly shifting toward adaptation and energy upgrade of existing and historic buildings, research on Post-Occupancy Evaluation (POE) has grown notably in recent years. School buildings are a significant asset to the European building stock and an important field of investigation because of the peculiarities of the end users and the impact of indoor environmental conditions on their health and productivity. Building on recent literature, particularly the method of Povl Ole Fanger, this research presents the results of a quantitative and qualitative study performed to assess the thermal comfort conditions of a primary school located in a historic building in Villar del Arzobispo, Spain. As the study involves six and seven-year-old pupils, appropriate questionnaires for subjective thermal comfort evaluation were defined with the pedagogical support of the teachers, who also took part in the research and helped deliver the surveys to the children. The Predicted Mean Vote (PMV) and Percentage of Dissatisfied (PD) were then calculated for the evaluation of thermal comfort from measurements and questionnaires, for both pupils and teachers, using the classroom as a sample size. The results show a difference between pupils' and teachers' subjective opinions, with the children displaying a higher and more-difficult-to-reach threshold for indoor thermal comfort.

Keywords: Post-Occupancy Evaluation, Thermal Comfort, Indoor Environmental Quality, Historic Buildings, School Buildings.

Nomenclature

A_{Du}	Du Bois Surface Area
clo	Clothing Insulation (clo)
H	Height
PD	Percentage Dissatisfied
PEPD	Prevalent Environment Perception of Dissatisfaction
PMV	Predicted Mean Vote
PPD	Predicted Percentage of Dissatisfied
RH	Relative Humidity (%)

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