

Individual Physiological and Psycho-Physical Response on Predicting Thermal Comfort in Transient Environments: A Literature Review

Authors : Fatemeh Deldarabdolmaleki, Nur Dalilah Dahlan, Farzad Hejazi

Abstract : Human individual physiological and psycho-physical responses widely affect thermal comfort and preferences. They should be carefully researched to help improve the design and comfort of indoor environments. This paper aims to explore and test the degree and importance of individual physiological and psycho-physical differences, reviewing the most preferred, neutral, and comfortable temperature in previous studies conducted across the world. Basic individual physiological differences like gender, age, BMI and etc., have been the focus of this research. There is no unique consensus in the literature to date in regard to providing a universal thermal comfort formula that meets all individual physiological and psycho-physical needs. In order to achieve a balanced, thermally comfortable indoor environment, studying and evaluating individual needs in different parts of the world could be helpful. Even though personalized comfort systems in indoor environments sound promising, they might not be easily achieved in bigger office interiors, considering the cost and current open-plan office trends.

Keywords : thermal comfort, indoor environments, occupants' physiological response, occupants psycho-physical response

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