Abstract

The main aim of this research is to find out the thermal performance in relation to Total Building Performance (TBP) in terms of its overall and thermal parameters' performance, its relationship with other building mandates' variables and other factors like gender in the secondary schools in Singapore.

From the objective analysis, it was found that the mean radiant temperature was unsatisfactory in one of the schools. One of the suggestions given is a new building product which is not yet marketed called the novel reversible ventilated glazing system that can be used to reduce unwanted radiant heat gain effectively.

From the statistical analysis, it was found that the overall thermal comfort would improve if the performances of air movement and heat generated by nearby equipment improve. Moreover, it was discovered that each of the thermal variables is positively interrelated with some of the other building mandates' variables. Fixed factors such as age, gender, education level and how long the occupant works in the building has no significant impact on the thermal variables that in turn affects the overall thermal comfort. Besides, the respondents also indicated that they would like to have higher significant controls over air temperature and movement and this type of behaviour is termed as "satisficing behaviour".

In conclusion, it is vital to realise that the decision made on one building mandate can influence the other mandate thus it is crucial that the integration of construction chain starts from the beginning as proposed in C21 report in order to let the teachers and staffs to have a conducive working environment.

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