

Theme A: Human-Building Nexus - Enhancing Health and Productivity in the Built Environment

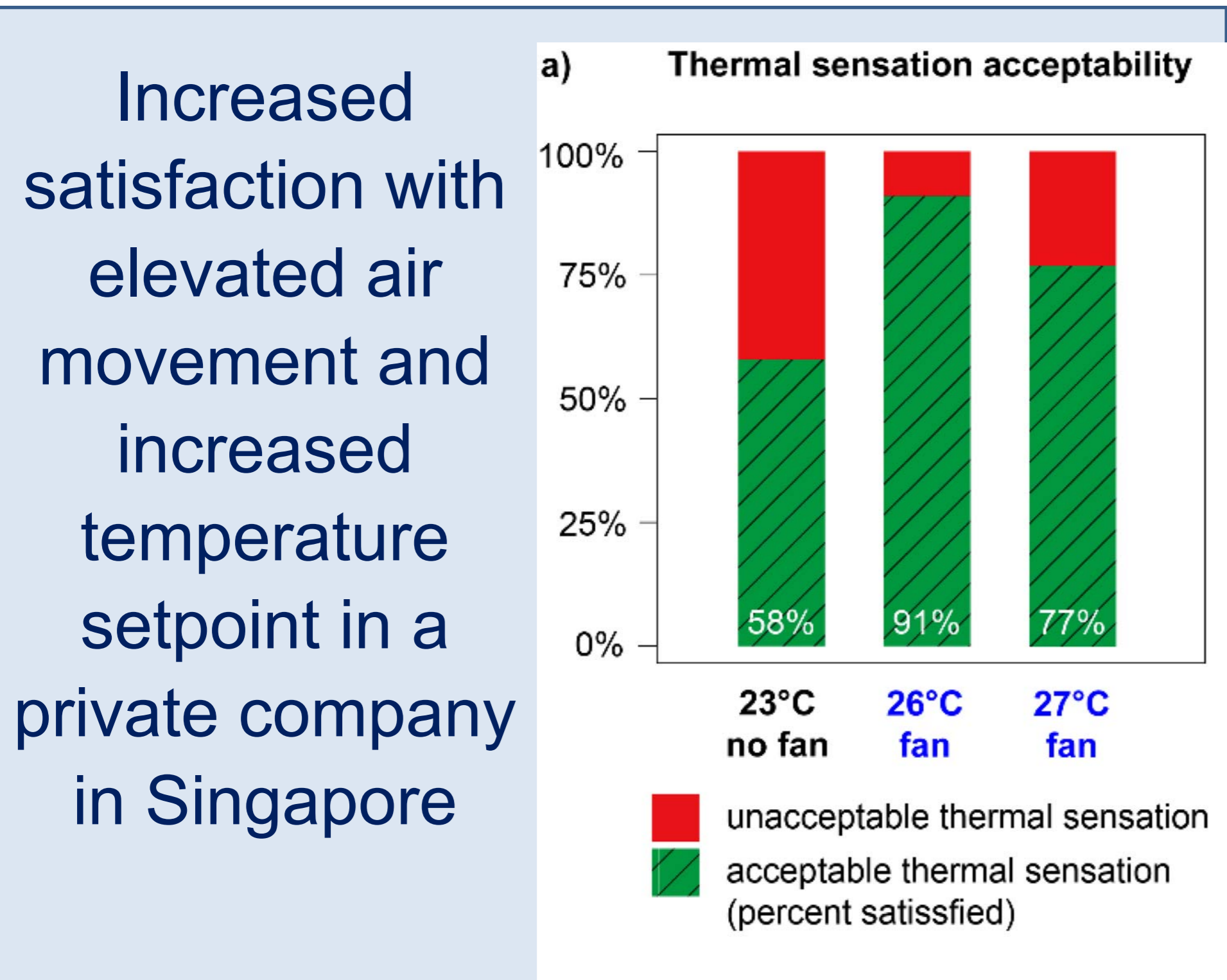


Stefano Schiavon, Kwok Wai Tham, Chandra Sekhar, Man Pun Wan, Sanjib Panda, Massimo Alioto, David Cheong

The aim of this theme is to create knowledge, innovate, and develop solutions to enhance health, well-being and productivity through smart buildings for tropical climates.




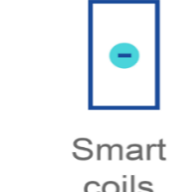

The methodologies used in this theme comprise different type of surveys, empirical evaluations in various testbeds and field studies.

Overall these culminate in a deeper and more comprehensive understanding of the health and wellbeing of the occupants, manifested in terms of satisfaction, perception and tangibly in performance (productivity). Implied in the approach is energy efficiency and smart technologies (sensing, control and informatics) and analytics.



Theme outcomes are focused on: (i) innovations that have industry translation potential for optimal energy and satisfaction cooling, dehumidification and ventilation, and wearable sensors for engaging occupants with systems operation; (ii) guidance for the design and operation of existing and new buildings. Collaboration with relevant agencies and the industry forms a critical element in this theme. An important dimension is engagement with relevant standards committees to translate the findings for adoption.

Projects

-  Health, Well-Being and Productivity and Indoor Environmental Quality
-  IEQ benchmark
Benchmark for Occupant Satisfaction in Commercial Building in Singapore
-  Elevated air movement
Elevated Air Movement and Increased Temperature Setpoint
-  Smart coils
Adaptable coil
-  PM and aerosols
Solutions to Reduce Exposure to Particulate Matter and Airborne Aerosolized Transmissions

Lighting Experiment in CREATE Test Bed involving human subjects



"This research project is funded by the National Research Foundation Singapore under its Campus for Research Excellence and Technological Enterprise (CREATE) programme."