

**Physiology's influence on the thermal comfort of the occupants: A study  
in Ensenada, Baja California**

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ABSTRACT

**INTRODUCTION:** Thermal environment's adverse conditions can significantly affect the performance, comfort and well-being of people, so this study aims to estimate the thermal comfort range from the cold period in Ensenada city, Baja California: February month, from different levels of metabolic activity: passive, moderate and intense. **PURPOSE:** This study seeks to identify the relationship between the people thermal perception, their metabolic activity and the physical or psychological sensations involved in the process of adaptation indoors. Thermal sensations are caused by several factors: 1) Physical stimuli of the thermal environment, 2) Activity metabolic, as well as the intensity with which it is performed, 3) Clothing, 4) Experience and 5) Human expectation. **METHODS:** Data collection was based on the application of questionnaires, which considered physiological, perceptual and environmental characteristics measurements. The study case is located in Ensenada city (temperate-dry bioclimate); with a target population that is within the range of 15-19 years old and 20-24 years old. It was decided to apply the assessments to university students of the Autonomous University of Baja California, who represent 60 % of the statewide student community. **RESULTS:** Estimated thermal comfort during the cold period resulted from 16.9 °C to 23.9 °C for occupants that exercising passive activity (0.8 met to 1.2 met), from 16.6 °C to 23.9 °C for moderate activity (1.2 met to 1.6 met); and 17.1 °C to 23.2 °C for those who exercised intense activity (2.0 met to 2.4 met). **CONCLUSION:** According to the aforementioned, it is possible to inform that occupants metabolic activity and, thereby the production of generated internal heat, exerts an influence in the thermal sensation that they perceive from immediate environment.