

**ANALISIS KENYAMANAN TERMAL DI SEKOLAH MENENGAH
KEJURUAN NEGERI 3 YOGYAKARTA DITINJAU DARI DATA
SUBJEKTIF DAN DATA OBJEKTIF LINGKUNGAN TERMAL**

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INTISARI

Kenyamanan termal pada bangunan pendidikan berpengaruh signifikan terhadap *well-being* siswa dan guru. Oleh sebab itu, kajian mengenai kenyamanan termal di bangunan pendidikan penting untuk dilakukan, baik untuk kebutuhan evaluasi maupun untuk merancang rencana optimasi. Adapun kondisi lingkungan termal di SMKN 3 Yogyakarta sudah pernah dikaji dalam penelitian sebelumnya, namun penelitian tersebut menggunakan model PMV (*Predicted Mean Vote*), yang terindikasi kurang akurat dalam memprediksi sensasi termal penghuni di lingkungan yang dinamis, karena tidak memperhitungkan faktor adaptasi lingkungan, bahasa, pengalaman, maupun budaya manusia yang berbeda-beda.

Oleh sebab itu, penelitian ini menganalisis kenyamanan termal di SMKN 3 Yogyakarta dengan turut melibatkan respons subjektif para penghuninya. Analisis dilakukan menggunakan statistik deskriptif dan uji korelasi untuk menganalisis hubungan antara respons subjektif dengan data variabel lingkungan termal, sehingga lingkungan termal yang dinilai nyaman dan mampu diterima oleh siswa di SMKN 3 Yogyakarta dapat teridentifikasi.

Berdasarkan hasil analisis, diperoleh karakter kenyamanan termal yang berbeda-beda antara responden di Ruang 15, Ruang 33, dan Ruang 40. Responden di Ruang 33 mampu merasa “nyaman” pada temperatur udara dalam kisaran 26,25°C hingga 27,437°C. Responden di Ruang 40 merasa “tidak nyaman” namun masih menerima kondisi termal pada temperatur udara dalam kisaran 26,125°C hingga 27,75°C. Sementara responden di Ruang 15 mampu merasa “nyaman” pada kondisi termal dengan temperatur udara dalam kisaran 26,81°C hingga 28,31°C.

Kata kunci: *kenyamanan termal, respons subjektif termal, bangunan pendidikan*

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**THERMAL COMFORT ANALYSIS AT SEKOLAH MENENGAH
KEJURUAN NEGERI 3 YOGYAKARTA IN TERMS OF SUBJECTIVE
DATA AND OBJECTIVE DATA OF THE THERMAL ENVIRONMENT**

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ABSTRACT

Thermal comfort in educational buildings has a significant effect on the well-being of students and teachers. Therefore, it is important to conduct a study on thermal comfort in educational buildings, both for evaluation needs and for designing optimization plans. The condition of the thermal environment at SMKN 3 Yogyakarta has been studied in previous studies, but this study used the PMV (Predicted Mean Vote) model, which is indicated to be less accurate in predicting thermal sensation of residents in a dynamic environment, because it does not take into account environmental adaptation factors, language, experiences, as well as different human cultures.

Therefore, this study analyzes thermal comfort at SMKN 3 Yogyakarta by involving the subjective responses of the residents. The analysis was carried out using descriptive statistics and correlation tests to analyze the relationship between subjective responses and thermal environment variables, so that the thermal environment that was considered comfortable and acceptable by students at SMKN 3 Yogyakarta could be identified.

Based on the the analysis results, different thermal comfort characters were obtained between respondents in Room 15, Room 33, and Room 40. Respondents in Room 33 were able to feel "comfortable" at air temperatures in the range of 26.25°C to 27.437°C. Respondents in Room 40 felt "uncomfortable" but still accepted thermal conditions at air temperatures in the range of 26.125°C to 27.75°C. Meanwhile, respondents in Room 15 were able to feel "comfortable" in thermal conditions with air temperatures in the range of 26.81°C to 28.31°C.

Key words: *thermal comfort, thermal subjective response, educational building*

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