

An Experimental Study on Intellectual Concentration Influenced by Indoor Airflow

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Abstract : In order to improve intellectual concentration, few studies have verified the effect of indoor airflow among the thermal environment conditions, and the differences of the season in effects have not been studied. In this study, in order to investigate the influence of the airflow in winter on the intellectual concentration, an evaluation experiment was conducted. In the previous study, an effective airflow in summer was proposed and the improvement of intellectual concentration by evaluation experiment was confirmed. Therefore, an airflow profile in winter was proposed with reference to the airflow profile in summer. The airflows are a combination of a simulative airflow and mild airflow. An experiment has been conducted to investigate the influence of a room airflow in winter on intellectual concentration. As a result of comparison with no airflow condition, no significant difference was found. Based on the results, it is a future task to ask preliminary preference in advance and to establish a mechanism that can provide controllable airflow for each individual, taking into account the preference for airflow to be different for each individual.

Keywords : concentration time ratio, CTR, indoor airflow, intellectual concentration, workplace environment

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