

21 EFFECT OF WOODEN ODORIFEROUS SUBSTANCES ON HUMANS

Yoshifumi MIYAZAKI¹⁾, Takeshi MORIKAWA¹⁾ and Noboru YAMAMOTO²⁾

¹⁾ Forestry and Forest Products Research Institute

²⁾ Kobayashi Pharmaceutical Co., Ltd.

It has been known that inhalation of wooden odoriferous substances causes substantial mood changes. However, little scientific data is available on the effects on humans. To present substantial data, we carried out experiments in a controlled setting room to investigate the effect of inhalation of several wooden substances on blood pressure, cerebral blood flow (2 channels of the right and left frontal regions) and sensory evaluation, using 14 male students as subjects. The results indicated that 1) inhalation of volatilized components of Japanese cedar chips caused a reduction in blood pressure and cerebral blood flow and 2) inhalation of volatilized essential leaf oil of Japanese cedar caused an increase in blood pressure and the cerebral blood flow. It was concluded that autonomic nervous activity and central nervous activity changed concomitantly.

22 EFFECT OF TOUCHING TO WOOD ON HUMANS

Yoshifumi MIYAZAKI, Takeshi MORIKAWA and Shuzo SUEYOSHI

Forestry and Forest Products Research Institute

Empirical evidence shows that touching wood induces a comfortable feeling in humans. However, most humans are touching painted wood in our daily life. We carried out experiments in a controlled setting room to investigate the effect of touching painted wood on blood pressure, cerebral blood flow (2 channels of the right and left frontal regions) and sensory evaluation, using 13 male students as subjects. The results indicated that 1) blood pressure returned to the basal level immediately after touching Japanese cedar wood (not painted), 2) the blood pressure was increased by touching metal and 3) blood pressure was also increased by touching wood coated with polyurethane. It was concluded that the touching wood thickly coated with polyurethane induced stress.

23 PSYCHOPHYSIOLOGICAL RESPONSES TO THERMAL STIMULATION ON A PALM (I)
-EFFECT ON BLOOD PRESSURE
AND SUBJECTIVE EVALUATION-

Yoshifumi MIYAZAKI¹⁾, Takeshi MORIKAWA¹⁾, Koichi IWANAGA²⁾, Hajime HARADA²⁾ and Tetsuo KATSUURA²⁾

¹⁾ Forestry and Forest Products Research Institute

²⁾ Chiba University

The purpose of this study is to present data on the effects on blood pressure and sensory evaluation of thermal stimulations on the human palm. The experiment was carried out in a controlled setting room, using 13 male students as subjects. Temperatures were set at 30.0, 34.5, 39.0, 43.5 and 48.0°C. The results indicated that 1) touching a metal surface of 48.0°C gave a significant "non-refreshing feeling" and 2) touching objects 43.5 and 48.0°C significantly increased blood pressure. It was concluded that touching a metal surface of 48.0°C induced physiological and psychological stress.

24 Psychophysiological Responses to Thermal Stimuli on a Palm (II) - Effects on Brain Hemodynamics -

Koichi IWANAGA¹⁾, Hajime HARADA²⁾, Tetsuo KATSUURA²⁾ Takeshi MORIKAWA³⁾ and Yoshifumi MIYAZAKI³⁾

1) Graduate School of Science and Technology, Chiba University

2) Faculty of Engineering, Chiba University, 3) Forestry and Forest Products Research Institute

The relationship between subjective evaluation and brain hemodynamics by thermal stimuli was studied in 13 male subjects. Subjects kept their right palm on a hot-plate of 30, 34.5, 39, 43.5 and 48°C with closed eye for one minute. Immediately after each stimulation period, subjects wrote a questionnaire of thermal sensation and comfort. Hemodynamics of left and right prefrontal area were investigated with 2-ch NIRS during the experiment. Oxy and total hemoglobin (Hb) increased bilaterally with increase in stimulus temperature and showed significant correlations with thermal sensation and comfort. As a result of partial correlation analysis, thermal sensation showed significant relationships with oxy- and total-Hb in the right hemisphere, but comfort did not. These results suggest possible relationships between cerebral blood flow and subjective sensations to thermal stimuli.

S5 Service Flats Planning for Aged Society in the 21st Century

Clara Ako YOSHIDA

Dept. of Human Environmental Sciences Jissen Woman's Univ.,

Both the number and proportion of older people is increasing in the population of Japan. An overwhelming majority of older people can easily manage in the community when given appropriate social supports. One of these support systems is environmental or architectural barrier-free design, especially clear sign colors, and intensive interior or exterior color design for aged vision.

Every color consists of yellow, red, and blue. While elderly persons look at the daily environment through the yellowing lens of the eye, their failure to discriminate color distinctions increases gradually, and this sensory deterioration may become quite serious for judgment in their daily lives. In this paper, we analyzed age-related changes of daily environment colors covering each with yellowing filters and obtained characteristics of age-related changing processes for each original chromatogram.

Conclusions are that the failure to distinguish color distinctions in the aged doesn't always depend on changing yellow intensity but on changing distances in color xy-chromaticity diagrams and processes compared to other chromatograms.

25 The study about the space and the comfortableness at the office

Tomomi SEYA

Department of Physiological Anthropology, Bunka Women's University

The purpose of this paper is to study the space laying-out of an office from the comfortable stand point. So far, comfortable investigation at the office was done by the psychology evaluation. In this paper, it checked off "new the office minimum" which the new office promotion discussion meeting settled on and the result of the psychology evaluation which was done in the past.

As a result, it following is thought of.

1) As for the laying-out of a desk in the narrow office, it considers passage width and it proposes a reverse type..

2) When examining from "the securing of privacy" and "the opening sense", 110 cm of the height of partition are proper.