

P-12 The Effect of Clothed Area on the Thermophysiological Response and Wearing Comfort at Heat Environment

Tae-kyu KIM · Oh-Kyung KWON

Department of Clothing & Design, Kyung-il University, Korea

This study was conducted 5 different kinds (cotton 100%, chambray) of clothing ensembles, that was Semi-Nude (brief), GI (short trousers + short shirt), GII (long trousers + short shirt), GIII (short trousers + long shirt), GIV (long trousers + long shirt) and were done in a climate chamber under heat ambient temperature ($33 \pm 1^\circ\text{C}$, $65 \pm 5\%\text{RH}$).

The variation of mean skin temperature showed stable conditions at the ambient temperature.

The mean skin, mean body and body mass loss were respond sensitively and were affected by exposure of upper body than that of lower body.

Temperature within clothing was lower in GII than in GIII.

P-13 Effects of opening conditions of working clothes on physiological responses

Kinuyo OTOMASU¹⁾, Yoshiko KANEKO¹⁾ and Chizuko TAKITA²⁾

1) Faculty of Human Life Sciences, Prefectural University of Kumamoto, 2) Fukuoka Women's Junior College

To find comfortable working clothes under hot environment, effects of opening area on physiological responses were observed for 30 minutes on adult women wearing each of 4 different types of clothing (closed or opened-collar and sleeveless, and closed or opened-collar and long sleeves) during intermittent exercise at 30°C . The skin temperature in the chest was significantly lower in opened-collar and long sleeves than in closed-collar and sleeveless. In the contrast the skin temperature in the back was observed lower in closed-collar and sleeveless than in opened-collar and long sleeves, which both were not significant. The difference in the mean skin temperature were not statistically significant.

P-14 Improvement of Air-Bag Method for Measuring Clothing Pressure

Minako YOSHIDA and Kozo HIRATA

Lab. Clothing and Exercise Physiol., Kobe Women's Univ.

To improve the air-bag method for measuring clothing pressure, two experiments were performed, 1) observation of the effect of air volume change in the air-bag, 2) development of the way to prevent the air leakage from the coupler (connecting part of the air-bag). There was a significant correlation ($r=0.989$) between the air volume (ml) and the clothing pressure (mmHg). The equation of the regression line showing the relationship was $y=23.7x+10.8$. Air leakage was totally stopped by handling the coupler for connecting the air-bag to the pressure sensor, and injecting silicone into the plastic tube of the coupler. It is indicated that the air volume should be kept at constant as the clothing pressure was affected by the change in air volume, and the air leakage from the coupler was prevented by the method we improved.

P-15 Effect of clothing pressure by the Girdle on toe skin blood flow and skin humidity

Maya TANAKA¹⁾ and Kozo HIRATA²⁾

1) Graduate school of Home Economics, Kobe Women's University

2) Faculty of Home Economics, Kobe Women's University

The effect of clothing pressure by the Girdle for 5 min on toe skin blood flow (SBF), toe skin temperature (Tsk) and toe skin humidity (SH) were studied in three female subjects at 30°C and $50\%\text{RH}$. Experimental clothing was a T-shirt, a skirt, underwear and a girdle. The girdle was sewed fastener on a product. When Girdle pressure was applied from 15 to 25 mmHg, SBF increased with rising Tsk and SH. However, SBF decreased at <15 and >25 mmHg of clothing pressure. Increase in SH was induced earlier than that of SBF. There was a significant correlation between SH and SBF ($P<0.01$). These results suggest that the specific clothing pressure induce increasing SBF through the mental sweating mechanism.

P-16 Adaptability of Children's Feet and their Shoes

Yoshie SHIBATA¹⁾, Sadae ONO²⁾, Masato KAJINO³⁾

1) Consumer Science Research Institute of Hyogo Pref. 2) Ashiya Yu

3) Hukusuke Co. Ltd

We are the group of volunteers researching children's feet and their shoes and have measured the feet of the same subjects (children) once in a year since 1984. We have obtained the measurement data consisted of 13 items on the 1178 both feet of total 589 children who are from 4 to 11 years old for nine years so far. At the same time we also investigated the shoes they wear when they go to school. In this research, adaptability of the present Sizing system for shoes by JIS (Japanese Industry standard) to children's feet was examined by analyzing their foot length, perimeter and width. JIS decides the size with the arithmetical series but in the actual distribution of the children's feet, the children's foot length and foot perimeter (girth) does not relatively increase in the equal difference in the course of time. On the other hand WMS standard of German children's shoes industry, in the relation of their foot length and perimeter, increases the growth rate of the foot perimeter in order.

P-17 Studies on Survey of the Actual Use of Bedding the contrast of 1990 and 1995

Yean Jung · Su Kwang Sung

With the purposes to contrive the qualitative improvement of sleeping life to consumers and to demand the goods planning that suited for the direction of demands to producers, this study executed the investigation of national actual conditions on the purchase, use, management of bedding make housewives of 3,957 living national 9 cities, and comparison with the survey results of 1990 and acquired as the following results. 1. When purchase bedding, regarded as of great importance the original functions of products of humidity absorption, thermal insulation, air permeability, flexibility. 2. The dissatisfactions of using bedding composed of those in humidity absorption, thermal insulation, hardness, air permeability, heaviness. 3. Have used the traditional cotton bedding, but wished to purchase silk, wool, down/feather quilt in future. 4. The sleeping life of consumer is a Korean type for some time, but there is a disposition progressing individualization and diversification with westernization. 5. The big change in sleeping life of consumer for 5 years not revealed, but in purchase showed outstanding change.