

SEASONALITY OF DRESSING BEHAVIOUR IN YOUNG WOMEN

Masako Hori-Yamagishi and Hiromi Tokura*

*Department of Home Economics, Fukuoka University of Education, Fukuoka 811-41, and***Department of Environmental Health, Nara Women's University, Nara 630, Japan*

INTRODUCTION

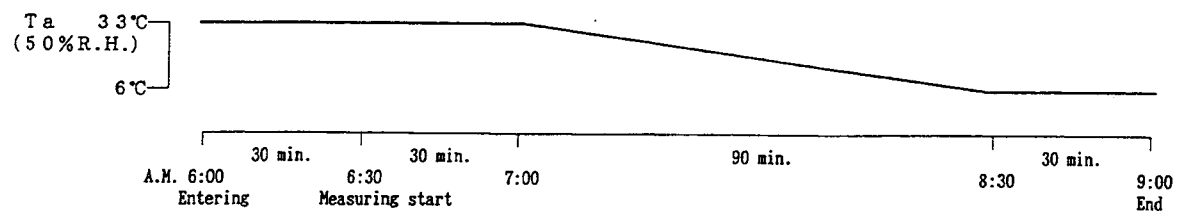
It is known that there are seasonal changes in thermal sensation to cold air, amounts of shivering and vasoconstriction tonus of finger in cold (1). According to many field surveys in Japan, people wear more thickly in everyday life in spring than in autumn under equal air temperature (2). However, our recent study found that there did not exist any changes in clothing weight worn between spring and autumn (3), suggesting a loss of seasonality in dressing behaviour between both season, under the influence of rapid modern civilization. To test our speculation, the following laboratory and field observations were done throughout a year.

METHODS

Seven female young adults volunteered as subjects. Their mean (SD) age, height and weight were 22.1 (2.1) years, 157.7 (3.8) cm and 55.7 (7.3) kg. The experiments consisting of laboratory and field ones were carried out in July, October, January and April throughout the year.

Laboratory; Experiments were carried out in a climatic chamber at Nara Women's University. The experimental schedules were shown in Table 1. When an ambient temperature (T_a) was lowered from 33°C to 6°C in 90 minutes, the half-naked subjects were instructed to wear freely. The experimental garments were 16 parts and 3397g in total. Rectal (T_{re}) and skin temperatures, thermal sensation and dressing behaviour were continuously measured. The dressing behaviour was expressed by the cumulative increase of clothing weight.

Table 1 Experimental schedule



Field; The subjects were instructed to survey every day for a month in four seasons what they wore and how much the garments worn each day weighed. Air temperature and relative humidity were measured in Nara Women's University every day during the field study. The research was carried out from 1991 to 1992.

Table 2 Average clothing weight and S. D. in four seasons

| Subjects | Summer (T_a 29.2 \pm 2.6°C) | | Autumn (T_a 17.8 \pm 2.0°C) | | Winter (T_a 7.2 \pm 2.3°C) | | Spring (T_a 17.3 \pm 3.7°C) | |
|----------|----------------------------------|-------|----------------------------------|-------|---------------------------------|-------|----------------------------------|-------|
| | Means | S.D. | Means | S.D. | Means | S.D. | Means | S.D. |
| 1 | 491.8 | 18.4 | 1060.0 | 252.9 | 2160.5 | 95.7 | 956.2 | 87.6 |
| 2 | 700.0 | 99.1 | 962.0 | 131.6 | 1987.9 | 98.6 | 1040.0 | 132.5 |
| 3 | 577.7 | 137.5 | 1045.5 | 396.4 | 2363.2 | 284.8 | 1433.7 | 288.4 |
| 4 | 673.3 | 102.4 | 1985.0 | 569.4 | 2795.7 | 338.1 | 1417.3 | 611.5 |
| 5 | 623.5 | 126.7 | 1191.7 | 192.5 | 2370.7 | 319.7 | 1173.2 | 239.4 |
| 6 | 508.0 | 86.3 | 749.0 | 215.2 | 1803.7 | 84.2 | 1002.3 | 246.0 |
| 7 | 493.2 | 92.4 | 1105.5 | 203.3 | 1898.7 | 218.4 | 949.3 | 185.2 |
| Means | 564.0 | | 1155.8 | | 2204.1 | | 1138.9 | |
| S. D. | 80.6 | | 361.7 | | 317.3 | | 194.0 | |
| T-test | N.S. | | | | | | | |

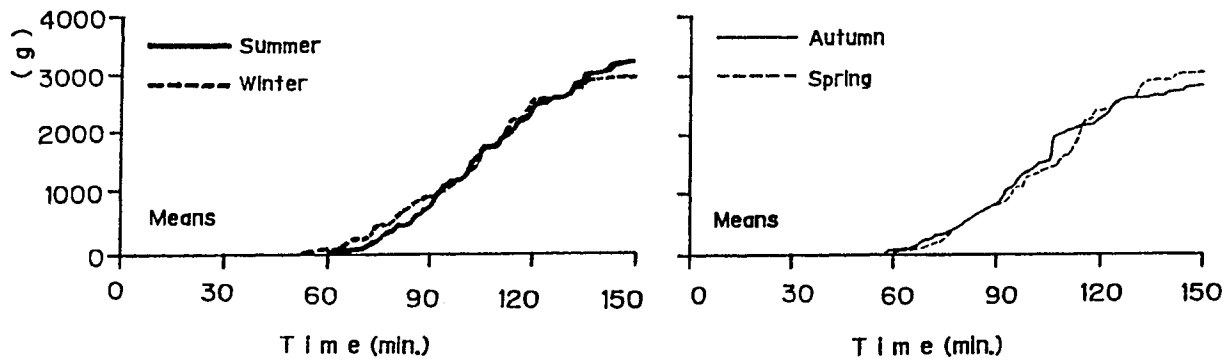


Fig. 1 A comparison of cumulative increase of clothing weight worn between summer and winter (left), spring and autumn (right).

RESULTS

Laboratory ; Fig.1 showed temporal changes of cumulative increase of clothing weight between summer and winter, autumn and spring. Although the clothing weight increased proportionally with the fall of T_a , there didn't exist any seasonal changes in the clothing weight worn. This result indicates no seasonal changes of dressing behaviour..

Fig.2 compared seasonal changes of ΔT_{re} among four seasons. Although the values were lower in summer than those in other 3 seasons, there were no significant differences among four seasons. In addition, mean skin temperature and thermal sensation also showed no seasonality. Thus, it was shown that the thermophysiological parameters didn't have any seasonal changes in the laboratory experiment under T_a fall from 33°C to 6°C.

Field ; Table 2 showed the average clothing weight and S.D. for 30 days in each seasons. The field experiment disclosed that the clothing worn was the thickest in winter and the lightest in summer, while no differences existed in the clothing weight between spring and autumn.

Fig.3 showed the relations between average clothing weight and air temperature of four seasons. It was suggested that the average clothing weight had little changes during the same season irrespective of large air variability of T_a .

CONCLUSIONS

It is concluded that the seasonality of dressing behavior didn't seem to exist. This might be probably related with the findings that there weren't seasonal changes in the thermophysiological responses to cold.

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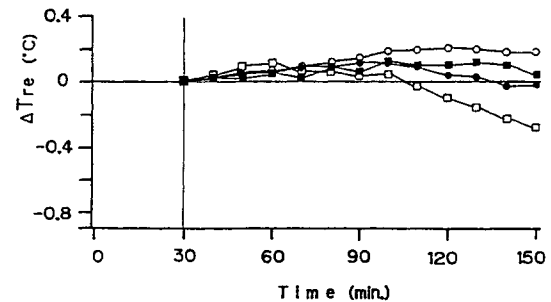


Fig.2 A comparison of average ΔT_{re} among 4 seasons. Summer, open squares, autumn; open circles, winter; closed squares, spring; closed circles.

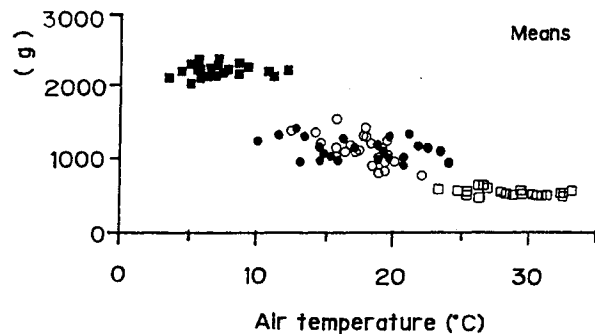


Fig.3 Relations between clothing weight and air temperature among 4 seasons. Symbols as in fig.2.