

5B23 **Effects of Radiant Head Heating on Physiological Responses under Exercise**

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The purpose of this study was to investigate the effects of radiant head heating on physiological responses under exercise. The subjects were eight female students. The subjects sat for 60 minutes quietly before the head heating under the condition of 28°C. Then the subjects moved to climate chambers which controlled at 18°C or 28°C and both conditions were separated in head heating on and off (18on, 18off, 28on, and 28off). They sat for 40 minutes quietly, and then took a ergometer exercise for 30 minutes. The radiation level was 35°C controlled by glove thermometer. Results obtained were: 1)The finger skin temperature was higher in 18on than 18off in the condition of 18°C, however the difference decreased during exercise. 2)There was not seen the significant difference between 28 on and 28off in the finger skin temperature throughout the experiment. 3)The thermal sensation and finger skin temperature corresponded to mutually in four condition.

5B24 **The effects of type and difficulty of mental task on psyco-physiological responses**

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Present study aims to examine the availability of event related potential (ERP) elicited by dual task condition and heart rate variability (HRV) as indices of mental work load. The experiments were conducted using an ERP-eliciting auditory task under three different types of visual task. Each kind of visual task consists of easy and difficult conditions. Subjects were nine male students. As a result, with same type of visual task, the amplitude of P300 wave under the easy task condition were significantly larger than under the difficult task condition. The amplitude of early and late component of contingent negative variations under the difficult task condition were significantly larger than under the easy task condition. HRV did not indicate significant difference on both task type and difficulty. It was suggested that ERP elicited under dual task condition indicated human mental workload.

5S02 **Urbanization and Depopulation—
Issues on Transmission of Human Knowledge and Wisdom**

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We as homo sapiens need new wisdom to deal with the acceleration of urbanization occurring in many parts of the world and the deterioration of the natural environment which threatens the maintenance of bio-diversity. This talk raises the following topics to be explored in physiological anthropology from a broader perspective:

1. Urbanization vs. depopulation
2. Urbanization as a political issue
3. Multi-cultural strategies for man's survival
4. Population explosion and environmental deterioration threatening the maintenance of bio-diversity
5. Transmission of human knowledge and wisdom, new and old

5B26 **An experimental study of variation of flick velocity in involuntary eye movement by visual load**

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The purpose of this study was to examine the nature of variation of flick velocity in 2-hours VDT workload (visual search task). The involuntary eye movement during binocular fixation on the small target was measured before and after visual load by a photo-electric recording of corneal reflection. Flick velocity for horizontal component in involuntary eye movement was analyzed. For 2-hours visual load, the significant decrease in flick velocity was recognized with the level of 1%. It is concluded that 1) the decrease in flick velocity during visual load was due to the low function in the system of involuntary eye movement; 2) the flick velocity could be an effective index to evaluate the visual fatigue.

5B27 **Study on the Readability Valuation of the Inverse Contrast Target**

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Visual acuity curves of Inverse contrast tell the threshold of visual perception, but in terms of readability, it isn't sufficient. So, according to the experiment of the valuation that subjects judge a valuation of the three steps, the author showed the background luminance adequate for visual perception. Compared with the background luminance under the threshold condition, the author revealed the readable lighting condition for the qualitative lighting design.

5B28 **The Eye Fixation Area of Wheelchair User**

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We examined whether the difference of space or walking, on the slope in a mountain trail, influences the tendency of the eye fixation or not. We show the definition of the eye fixation to analyze the examination. The eye fixation area of wheelchair user is the same as that of general people. Thinking about the area which the objects are considered to be seen exist in, the area of outdoors is wider than that of indoors. As the result of these facts, we could find the definition of the eye fixation between wheelchair user and general people.