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HFES 52nd Annual Meeting September 22-26th, 2008 New York City
What’s Happening at the 2008 HFES Annual Meeting
September 22-26
ConneMara Bazley

EDTG Technical Group Session
September 24
Wednesday, 1:30-3:00

Abstracts for EDTG Session:

Task-Specific Speed Preferences When Sitting on a Rotary Dynamic Seat
Erin Lawler and Alan Hedge
Cornell University

Comparisons of Seated Postures between Office Tasks
Dan Nathan-Roberts, BingYune Chen, Matt Camilleri, and David Rempel

Importance of Arm Support Optimization on Comfort and Working Posture Preference
Scott Haynes

Backpack usage and self-reported musculoskeletal discomfort in university students
June Mung Yuing Hu and Karen Jacobs
Boston University

Joint Technical Group Business Meeting

This is a Joint Meeting with THREE TG’s!
EDTG (Environmental Design), METG (MacroErgonomics) & HCTG (Health Care)

Date: Wednesday, September 24
Time: 3:15 –4:40.
Location: O’Neill (4th Floor)

Please join us for news and events about each TG. Plan to renew your TG memberships. Light fare and lively conversation and refreshments provided.
From the EDTG Chair

Highlights from the EDTG 2006-2008

ConneMara Bazley

For the past three years EDTG has had an increase in membership, informative sessions and lively business meetings. In 2006, the HFES 50th Meeting was in San Francisco, California. The EDTG had two sessions; the first was a joint session with the Health Care Technical Group and the second session was an international panel that presented a global view on seating. Immediately following the second session an AllSteel sponsored business meeting was held featuring Dr. Peter Vink from TNO and Delft University, The Netherlands, discussed “A New Way of Advising on Ergonomic Environments”.

In 2007 the EDTG session featured Workspace perceptions, workspace design, and seating. We held a joint business meeting with MacroErgonomics and had two distinguished speakers, Dr. Pat Scott, from South Africa, discussed her outstanding work being done on the African Continent, and Dr. Peter Vink, who returned from the Netherlands to give us an update and some results on several of the studies he had discussed the year before.

This year we have an updated website, increase in membership and new officers. I would like to thank Nancy Stone, Program Chair, for her great programs and sessions the past two years and also to Justin Stone for recently updating the website. Thank you Rani Lueder, Scott Openshaw, and Allsteel for helping with the successful 2006 business meeting. To Michelle Robertson thank you for your help with arranging and coordinating the past two business meetings and Alan Hedge for his input and expertise in putting, together the new EDTG brochure. And I thank you EDTG members for sending news, participating in surveys, serving on committees, and a host of other events and activities that keep “us” up to speed on the latest developments and
breakthroughs in Environmental Design Practice and Research. I have enjoyed being your TG Chair for the past two year’s and wish the new officers the very best. EDTG Members please contribute your papers, posters, feedback and support to the new EDTG officers. Enjoy this year’s session and the joint business meeting, with three TG’s!

See you in New York City!

ConneMara Bazley

Interesting Findings at the ICPA 2008
Peter Vink

The 9th International Congress of Physiological Anthropology (ICPA) “Human Diversity: design for life” was held in at Delft University August 22-26, 2008 in The Netherlands. This Congress was well organized by Johan Molenbroek Nicholas Mascie-Taylor with high quality papers by 70 presenters.

Morning light is important for day rhythm, according to the keynote speaker Dr. Shigekazu Higuchi. Low spectral colours in the morning sets your day rhythm clock (low spectral contains blue/purple, see figure 1). Melatonin plays an important role in this process. Dr. Higuchi discussed also day and night rhythm experiments. Night rhythm is disturbed performing computer work right before sleep. Most people have a day rhythm of more than 24 hours, but the clock is reset by morning light. It can even be used after a short sleep to reset the day rhythm (See abstract 1).

Nature has a calming effect. According to Agnes Van den Berg, a small plant in a room or a poster of a scene from nature can have a calming effect on people. Kaplan (2003) introduced the term “micro restorative experiences”. These short contacts with nature produce a calming effect. Smelling a flower lowers the stress hormone cortisol (Figure 2.).

Ulrich (1984) showed that after gallbladder surgery people stay 8.7 days in the hospital with a window view looking at a wall as compared to a 7.9 day stay for people with a view of nature. The patients with the view of nature also used significantly less pain...
medication as compared to those patients with the wall view. Later studies by Ulrich et al. (1991) found that after participants watched a thrilling movie, followed by a ten minute movie showing an urban area, a traffic movie or a movie of nature that the muscle activity of the m. frontalis was significantly reduced (Figure 3), (see abstract 2).

![Figure 3. The muscle tension of the m. frontalis after a thrilling movie followed by a movie of shops, urban traffic and nature.](image)

Taking in the Atmosphere of the Forest was presented by Bum-Jin Park a similar study in that walking or sitting in nature showed a hemoglobin level in the left prefrontal area that was significantly lower as compared with walking or sitting in an urban area. Furthermore, the percentage of cortisol, blood pressure and heart rate were also lowered (see abstract 3).

Comfort and productivity at the office
Dr. Peter Vink presented the effects on productivity when introducing changes and different elements into the office environment (see abstract 4).

A book will be published featuring the important papers presented at this Congress. Abstracts and more information about the 9th ICPA are found at http://www.io.tudelft.nl/live/pagina.jsp?id=e611fb50-5eb2-4773-91db-a2a24b29c93c&lang=en

The next ICPA (10th International Congress of Physiological Anthropology) will be in Australia. For more information please contact peter.vink@tno.nl

Abstract 1
Dr. Shigekazu Higuchi
National Center of Neurology and Psychiatry, Tokyo, Japan

Lighting and human wellbeing
Humans adapt to the natural light-dark cycle according to the rotation of the earth on its axis. Many physiological, endocrinal and behavioral functions have a circadian rhythm that is modulated by light, a signal that is transmitted from the retina to the circadian pacemaker in the brain. Natural light changes dynamically depending on latitude, season and weather. The short duration of natural sunlight in winter can have a negative impact on mood and circadian rhythm. Exposure to artificial bright light has been used for patients with winter depression and also is a useful countermeasure to prevent the impairment of alertness on night shift workers. Despite the benefits of artificial light, recent studies have shown that artificial light at night could have negative impacts on human sleep, circadian rhythm, and health. In this paper, the attention is paid to the inter-individual and population differences in physiological responses to light from the view point of human adaptability. Melatonin is key to address these themes. Melatonin,
secreted from the pineal gland during the night, is the most reliable maker of internal circadian rhythm. In addition, since melatonin is acutely and easily suppressed by exposure to light, suppression of melatonin is thought to be good for evaluating the individual to photosensitivity. In the 21st century, new photo pigment called melanopsin was discovered in the mammalian retinal ganglion cell (RGC), which is maximally sensitive in the blue part of the spectrum of light. Physiological effects of light through the melanopsin-containing RGCs are called “non-visual effects” or “non-image-forming effects”. New basic and applied studies are uncovering the mechanisms underlying the effects light has on the well-being for humans.

Abstract 2
Agnes van den Berg
Wageningen University, The Netherlands

Effects of green space on human well-being
Many people have the feeling that contact with nature provides them with a restoration from stress and improves their health and well-being. These common sense notions are increasingly supported by findings of well-controlled research. This research is a state-of-the-art overview of scientific evidence for positive influences of nature on affective, cognitive, and physiological functioning. Such positive influences have been found for various types of nature, ranging from large scale natural areas to urban green space, private gardens and simulated nature settings. Specific attention is given to recent studies in The Netherlands and Japan showing that beneficial effects of gardening and forest airbathing. These effects have been demonstrated with biochemical measures, such as salivary cortisol levels and blood glucose levels. In conjunction with the increasing scientific evidence, there is a growing interest to put the health functions of nature into practice at recreational, therapeutic and other settings. The lecture concludes with examples of some of these good practices.

Abstract 3
Bum-Jin Park, Tsunetsugu Y., Kagawa T, Miyasaki Y.
Center for Environment, Health and Field Sciences, Chiba University, Chiba, Japan

Taking in the Atmosphere of the Forest, 'Forest Bathing'
The growing interest in environmental stress has been accompanied by the rapid accumulation of evidence indicating that environmental stress can elicit substantial stress on people living in urban settings. Furthermore, it has been broadly conceived that forest settings can reduce stress and provide feelings of relaxation. However, it is not clearly established that forest environments actually promote relaxation. The term Shinrin-yoku was coined by the Ministry of Agriculture, Forestry and Fisheries in Japan in 1982, and can be defined as making contact with, and taking in the atmosphere of the forest. It is a process in which activities in forest settings are used to foster physical relaxation. In order to clarify what effects Shinrin-yoku has on relaxation; we conducted physiological experiments in 24 areas. Twelve subjects for each experiment (280 in totals; 21.7 ± 1.5 years old) walked in, and viewed the landscapes of, the forest and the city areas. On the first
day of each experiment, one group of 6 subjects was sent to a forest area, and the other group of 6 subjects to a city area. On the second day, each group was sent to the opposite area for a cross-check. Identical single rooms were prepared as lodgings for each subject during the experiments. Salivary cortisol, blood pressure, pulse rate and Heart rate variability (HRV) were used as indices. These indices were measured in the morning at the place of accommodation before breakfast, in the forest or city areas before and after walking (for 16 ± 5 min) or viewing (for 14 ± 2 min). The R-R interval was also measured continuously during the walking and viewing periods. The results of the experiment show that walking in the forest areas and viewing the forest landscapes lead to lower concentration of cortisol (walking: 15.8%; viewing: 13.4%), lower systolic blood pressure (1.9%; 1.7%), lower diastolic blood pressure (2.1%; 1.6%), lower pulse rate (3.9%; 6.0%), higher active parasympathetic nervous activity (103.5%; 56.1%) and lower sympathetic nervous activity (14.0%; 18.0%) than those in city areas. All of the results showed significant difference between forest and city areas’ effects on relaxation. These physiological measurements suggest that Shinrin-yoku effectively relaxes the human body.

Abstract 4
Prof. Dr. Peter Vink
Delft University of Technology,
The Netherlands

Interior design and comfort
The service industry is growing and lending itself to more office work. On the other hand, some offices are getting smaller and the focus is more of a meeting place. These days a lot of work can be done remotely or anywhere, but meetings with clients or colleagues is still preferred face-to-face. Therefore, attention to the comfort of the work station is moving towards the comfort of the meeting room.

In this paper a comfort model is presented and discussed. Research, demonstrated by different cases, shows the effects the changes have on productivity, innovativeness, health and comfort.

IEA 2009 Organizational Design and Management (ODAM) Symposium

17th Congress of the International Ergonomics Association: Changes, Challenges and Opportunities
August 9-14, 2009 Beijing, China
www.iea2009.org
Michelle Robertson, ODAM Technical Committee Chair

The International Ergonomics Association will hold its 17th Congress in Beijing, China from August 9-14, 2009. The Organizational Design and Management (ODAM) technical committee has always played a very prominent role at IEA conferences:

- Bourne-mouth (GBR) 1985
- Sydney (AUS) 1988
- Paris (FRA) 1991
• Toronto (CAN) 1994
• Tampere (FIN) 1997
• San Diego (USA) 2000
• Seoul (KOR) 2003
• Maastricht, 2006

A total of 9 successful ODAM conferences have taken place since 1984:

• Honolulu (USA) 1984
• Vancouver (CAN) 1986
• Kyoto (JPN) 1990
• Stockholm (SWE) 1994
• Breckenridge (USA) 1996
• The Hague (NED) 1998
• Aachen (GER) 2003
• Maui (USA) 2005
• Sao Paulo, Brazil 2008

You are invited to submit papers, posters, panels, workshops, and round tables related to any of the following topics for IEA 2009:

• Organizational design and management / Macroergonomics
• Participatory ergonomics
• Macroergonomics in healthcare systems
• Sociotechnical systems
• Cross cultural issues perspectives of macroergonomics
• Occupational health, stress and well-being
• Organizational and technological change
• Job and organization design

November 15, 2008: Deadline for submission of abstracts
Abstracts can be submitted at the IEA Congress website (www.iea2009.org) [NOTE: please make sure to select ‘ODAM’ as a keyword when submitting your paper].

Please contact Michelle Robertson, michelle.robertson@libertymutual.com, for any further information or if you would like to organize a session or joint session with another IEA Technical Committee.

January 1, 2009: Notification of acceptance

April 1, 2009: Deadline for submission of full paper
2009-10 Environmental Design Technical Group Officers

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