Newsletter of the Human Factors & Ergonomics Society

Aging Technical Group

Spring 2007

Message from the Chair

Chris Mayhorn
Aging TG Chair
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Unbelievably, six months have passed since the HFES Annual Meeting in San Francisco and we have already passed the submission deadline for the next conference in Baltimore (scheduled during Oct 1-5, 2007). Thanks to the diligent work of Steve Wiker, our Program Chair for Baltimore, we should have another interesting meeting in store for us. In the next installment of the newsletter, to be disseminated in early September, we plan to have our usual preview of the technical program.

In other news, we also elected a new slate of ATG officers. As a result of the elections held in November 2006, the ATG welcomes Rich Pak as our new Secretary/Treasurer and Diana Schwerha as the Program Chair-Elect for the 2008 Annual Meeting. Also, because this is the second year of my 2-year term as ATG chair, we elected Randa Shehab as the incoming ATG chair. Randa will officially take office at the end of the ATG business luncheon in Baltimore.

I am eager to complete my term as chair and I am happy to report that I will continue to represent the interests of the ATG as a Member-at-Large on the Council of Technical Groups. As part of my responsibilities in this new position, I intend to continue working with our officers and our members to highlight our interests and contributions within HFES and within the larger framework of those interested in aging. These efforts to increase the visibility of our work should greatly enhance understanding of our goals in addressing the needs of older adults as well as increasing our membership.

As always, I welcome your input and efforts in improving the impact of the Aging TG.

Sincerely,
Chris

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Older Workers and Beliefs in the Workplace

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Society is generally aging and so are people in the workforce. Organizations need older workers to be economically and productively viable in light of shifting demographics and a potential shortage of workers.

There are a number of assumptions, stereotypes, and myths believed by management and organizations regarding older workers Attitudes and beliefs about older workers have been characterized as ambivalent and mixed. That is, older workers are viewed as having both positive and negative attributes. When compared to younger workers, older workers are viewed

positively on a number of traits including low absenteeism, low turnover, work attitudes and motivation, job skills, and loyalty. However, a 1995 AARP study showed that managers rated older workers below average on avoidance of workplace injury. Barth, McNaught, and Rizzi's research (1993) revealed that, when it comes to older workers, managers are concerned about health care costs, their flexibility in accepting new assignments, and their suitability for retraining.

The National Research Council (2004, p. 14) stated, "Too many commonly held beliefs concerning the capabilities of older workers are either incorrect or based on inadequate data." According to Schultz and Salthouse (1999) there is a belief among some employers that "Most middle-aged and older adults are poor employment risks. Compared to young adults, they do inferior work, have poorer attitudes because they are more set in their ways and more often become injured or ill." If organizations maintain these beliefs about older workers, they are less likely to retain or hire them.

Contrary to these beliefs, studies conducted by the Bureau of Labor Statistics find that workers over age 55 account for fewer than 10% of all workplace injuries even though they make up almost 14% of the labor force. And AARP Public Policy Institute (2001) indicated, "It is younger workers who experience a disproportionate share of work-related injuries."

Our investigation centered around archival data that were retrieved from the Department of Energy (DOE). Selected from the database of recorded accidents and injuries were musculoskeletal types of disorders or injuries. These were analyzed relative to the DOE population and broken down into age groups. The archival data showed that older people did not have more reported musculoskeletal injuries than younger workers. In fact, younger workers had a higher injury incidence rate than the older groups. The ages of workers ranged from age 17 to age 76. It was assumed that the population was adequately representative of the current population of DOE employees because the sample size (66,111) was so large and would not have changed significantly in recent history. The youngest age group experienced the highest injury rate, that is 8.48 injuries per hundred; whereas, the rate for those workers over 50 years old was 7.49.

Thus far and very recently in fact, senior management at some organizations still maintains their accident and injury rates are due to the aging of the workforce. Even presented with their own data, which is contrary to those beliefs, they fail to accept or act upon the facts. Rather there is persistent hand wringing and a quick willingness to blame rather than accept the responsibility of changing the work practices and standards, which would allow for greater safety among all the workers.

Anthropometry of Aging Ears: A Report on Work in Progress

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Interests in anthropometry and the ergonomics of aging can lead to some strange and unforeseen studies and findings. This progress report is such a case. Late in 2006, I received a telephone call from an old friend and engineering colleague. He told me of questions from an ergonomist who wanted public anthropometric data on the dorsal aspect of human ears, especially the connections to the head. These dimensions relate to design requirements for an ear-mounted headset. A quick check of my hard copy files and the Internet indicated that I could not help in the near term. However, the problem bothered me so much that I did some more research during the last two months. No directly pertinent data turned up, but I learned a few curious facts of possible interest to the Aging Technical Group.

1. There are articles about anthropometry of ears on children and adults in many nations. The most were authored by plastic surgeons and anatomists interested in planning surgery to correct genetic anomalies and disease conditions. There are some dimensions of the most visible portions of normal ears as well as those of abnormal shapes and locations of ears. A related aspect is ear biometrics, which seems to mainly deal with recognition of individuals by people and by use of machine vision for security considerations. I found one article that noted concern with design of ear-related electronic devices, but it was

no better than the others as regards dorsal surfaces. Proprietary data on ear dorsal dimensions may exist, but it appears that there are no public data.

2. In the published literature there are many unstated assumptions and missing details about the geometry of the ear, the anthropometric landmarks and dimensions, and the directions of viewing for illustrations and methods of measurement. New terminology for origins and terminations of dimensions should be developed to clearly define dimensions. (I have been working for a decade on such concerns for other parts of the body, and now hope to publish my recommendations later this year, together with some suggestions involving anthropometry of the ears.)

3. Ear dimensions change with age through childhood and into adulthood. Women are reported to exhibit little change after age 40. However, ears of men keep growing at a greater rate, even after 60 years, based on regressions of length versus age.

An Aging TG success

Aideen Stronge

I accepted a role at Google as a user experience researcher this past fall after obtaining my PhD in psychology from Georgia Tech. I was active in the Aging TG during my time at Georgia Tech and my participation in this TG provided me with a skillset that has proved very useful in my career.

Similar to other TGs within HFES, the Aging TG provides young researchers with the opportunity to interact with researchers from different backgrounds such as engineering and computer science. The ability to communicate effectively with people with different backgrounds is an invaluable skill within the tech sector. Similarly, the ability to effectively communicate research findings in both written and spoken form is critical in my current position. The Aging TG not only provides a forum to present research findings, but its members strongly encourage participation from students in presenting their research findings. These skills - and the ability to practice them - can not be underestimated.

Finally, on a more personal note, the members within the Aging TG have been particularly supportive of their student members. This support provides the foundation for their ultimate success of their student members.

Calendar of Events

Creativity and Cognition Conference
Washington D.C.
June 13-15, 2007
http://www.cs.umd.edu/hcil/CC2007

20th Annual Cognitive Aging Conference
Adelaide, South Australia
July 12-15, 2007
http://www.cos.gatech.edu/cac

51st Annual Meeting of the Human Factors and Ergonomics Society
Baltimore, Maryland
October 1-5, 2007
http://www.hfes.org

International Conference on Supporting Group Work
Sanibel Island, FL
November 5-7, 2007
http://www.acm.org/conferences/group/conferences/group7

Gerontechnology 2008
Pisa, Italy
June 4-7, 2008
Presented by the International Society for Gerontechnology
http://www.gerontechnology.info/

52nd Annual Meeting of the Human Factors and Ergonomics Society
New York, NY
September 22-26, 2008
http://www.hfes.org

17th Congress of the International Ergonomics Association
Beijing, China
August 9-14, 2009
http://www.iea2009.org

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