Recognition of Dr. Neil Charness, the sixth Grandmaster of the International Society for Gerontechnology

James L. Fozard PhD[a,*]

[a]School of Aging Studies, University of South Florida, Tampa, Florida, USA; *Corresponding author: jimfozard1930@gmail.com

J. L. Fozard. Recognition of Dr. Neil Charness, the sixth Grandmaster of the International Society for Gerontechnology. Gerontechnology 2020;19(2):93-95; https://doi.org/10.4017/gt.2020.19.2.001.00 Election to Grandmaster is the highest recognition of members of the International Society for Gerontechnology (ISG). Dr. Charness is the sixth ISG member elected to Grandmaster status, a membership category created in 2010. Newly selected grandmasters have a special issue of Gerontechnology, the official journal of the ISG published in their honor. The grandmaster selects the themes and authors of the peer-reviewed contributions in the issue. Grandmaster Charness has chosen a group of articles written by the members of the Center for Research and Education on Aging and Technology Enhancement (CREATE), a multidisciplinary, multi-university consortium of researchers devoted to advancing applications of human factors research to the performance of aging and aged adults interacting with technology. Dr. Charness is a cofounder of this consortium active since its founding.

Keywords: Gerontechnology, human factors research and aging, technology-based interventions and aging

Introduction

This special issue of Gerontechnology 2020, vol. 19(2) is in honor of Dr. Neil Charness, the sixth elected Grandmaster of Gerontechnology, the highest honor of members of the International Society for Gerontechnology (ISG). Starting in 2010, the Grandmaster awardee special issues of the journal were to Drs James L. Fozard, Herman Bouma, Vappu Taipale, J.E.M.H. van Bronswijk, and Alain Franco.

This article summarizes my reasons for believing that Dr. Charness has made a truly outstanding array of contributions to ISG, gerontechnology, human factors engineering applications to compensate for age-associated functional limitations and the overall field of gerontology.

An important feature of Charness's approach to research on aging

A major feature of Charness's research is illustrated in his study of possible age differences in cognition in highly skilled activities, e.g., chess, bridge playing, sports, and musical performance. Age is a major factor in all these activities in which skill levels are rated by standing in competitive rankings, not age. My first acquaintance with his work were his studies of age differences in comparisons between the cognitive approaches of older chess playing experts and those of younger masters with similar standings on the competitive ratings (Charness, 1976; 1981). A similar analysis was made of bridge players (1983). This was a very direct approach to understanding age differences between young and old adults on a variety of tasks ranging from the speed of performance, list learning and remembering, all of which showed that young adults were superior to older ones on tasks, most of which were originally used in research on young college students. Explanations ranged from age differences in familiarity with or motivation to perform the tasks, differences in caution in tasks requiring speed and accuracy, etc. There was limited support for most of these explanations and none that generalized across many tasks. The unique contribution of Charness's research was that it neutralized possible extraneous age differences in motivation, speed of movements, etc., thereby allowing a better way to directly study the basis for age differences in performance by controlling for expertise.

The directness of Dr. Charness's approach is also illustrated in a human factors evaluation of lighting on visual tasks in public settings by older persons. Multiple laboratory research results showed that increased illumination and contrast improved the visual performance of older adults (Fozard, 1990). Charness and Dijkstra (1999) researched how well lighting of public spaces met

the needs of older adults; the main result was that the lighting in most of the places measured did not even meet the recommended standards established by the Society for Illuminating Engineers that at the time did not have special standards for age differences—the observed lighting was below standard for any adult.

Contributions to human factors and aging

Neil's contributions to human factors and aging are broad in scope. He is the co-author of Designing for Older Adults: Principles and Creative Human Factors Approaches (Fisk, A.D., Rogers, W.A., Charness, N., Czaja, S.J., & Sharit, J. (2009), now in its third edition. He is the co-author of a comprehensive review of human factors research in aging Charness, N. and Bosman, E. A. (1990). He was a contributor to the volumes edited or co-edited by Kwon (Charness, 2004, 2017) and the coeditor of a text on technology and aging: Charness, N., & Schaie, K.W. (2003).

His research activities span from driving and aging, evaluation of various input devices for human interaction with computers and currently, on research to improve the use and usefulness of computers by older adults.

Contributions to scientific societies

Dr. Charness is active in several important societies related to research and application in gerontology: the Technical Interest Group of the Human Factors and Ergonomics Society, the Technology Interest Group of the Gerontological Society of America, the divisions on Aging and Human Development and the Applied Experimental Research and Engineering Psychology of the American Psychological Association, in which he served as president and winner of distinguished contribution awards.

Contributions to ISG

Dr. Charness has served on the editorial board for this journal since its inception and is currently contributing to the creation of an on-line training course for young gerontologists. He was the convener of the Fourth World Conference on Gerontechnology held in Miami, Florida. He served as coeditor for the proceedings of the Second International Conference as well as a contributor to the volume. Summaries of the proceedings of the conference were the first to be published in Gerontechnology (Gerontechnology,2002); the first three were published as separate volumes.

On a personal note, I recall joining Neil in the celebration of the retirement of Professor Dr. Herman Bouma from the Eindhoven University of Technology faculty. In a lunchtime discussion about the future of ISG, Dr. Bouma urged Neil to join Dr. Annelies van Bronswijk and me in helping ensure the continued growth of the ISG. Neil has responded very positively to that request.

Contributions to CREATE

CREATE members wrote the articles in this special issue. Neil is a member and co-founder of CREATE, a multidisciplinary multi-university consortium of scientists originally at the University of Miami, Georgia Institute of Technology and Florida State University, in continuous operation for over 20 years (Czaja, S.J., Sharit, J., Charness, N., Rogers, W.A., & Fisk, D.A., 2002). The consortium is both highly focused at the same time its members function as independent scientists. The founding members are Drs. Sara Czaja and Joseph Sharit, University of Miami; Dan Fisk and Wendy Rogers, Georgia Institute of Technology and Neil Charness, Florida State University. Perhaps the most important bond among the members is the use of common rules for subject selection and measurement at all three sites; this facilitates the comparison and generality of the research projects. Members meet regularly to discuss new research plans and the complementary features of ongoing and published research findings. The positive effects of this synergistic approach are evident in the papers in this issue. Neil's scientific autobiography tells the story of CREATE best and why he is the newest grandmaster of gerontechnology.

References

Bronswijk, J.E.H.M., van (Ed.) Congress Issue. Gerontechnology, 2002(1).

Charness, N. (1976). Memory for chess positions: Resistance to interference. Journal of Experimental Psychology; Human Learning and Memory, 2, 641-653.

Charness, N. (1981). Search in chess: Age and skill differences. Journal of Experimental Psychology: Human Perception and Performance, 7, 467-476.

Charness, N. (1983). Age, skill and bridge bidding: A chronometric analysis. Journal of Verbal Learning and Verbal Behavior, 22, 406-416.

Charness, N.(2004). Preface. In D.C. Burdick & S. Kwon, (Eds.), Gerontechnology: Research and Practice in Technology and Aging. (xxv-xxvii). New York: Springer.

Charness, N. (2017). Preface. In S. Kwon, (Ed.), Gerontechnology: Research Practice and Principles in the Field of Technology and Aging. (xxxi-xxxii). New York: Springer.

Charness, N. and Bosman, E.A. (1990). Human Factors and design for older adults. In J.E. Birren & K. W. Schaie, (Eds.), Handbook of the Psychology of Aging (3rd Ed.). (446-464). San Diego: Academic Press.

Charness, N. & Djjkstra, K. (1999). Age, luminance, and print legibility in homes, offices and public places. Human Factors, 41 (2), 173-193.

Charness, N., & Schaie, K.W. (Eds.) (2003). Impact of Technology on Successful Aging. New York: Springer.

Czaja, S.J., Sharit, J., Charness, N., Rogers, W.A., & Fisk D.A.(2002). CREATE: Center for Research and Education on Technology Enhancement. In R. Pieper, M. Vaarama, & J.L. Fozard (Eds.), Gerontechnology: Technology and Aging—Starting into the Third Millenium. (pp 54-61). Aachen: Shaker Verlag.

Fisk, A.D., Rogers, W.A., Charness, N., Czaja, S.J., & Sharit, J. (2009). Designing for Older Adults: Principles and Creative Human Factors Approaches (2nd Ed.).Boca Raton: CRC Press.

Fozard, J.L. (1990) Vision and hearing in aging. In J. E. Birren & K. W. Schaie (Eds.) Handbook of the Psychology of Aging, 3rd Edition. (150-171). San Diego: Academic Press, 1990.

Graafmans, J., Taipale, V., Charness, N. (Eds) Gerontechnology: A sustainable investment in the future. Amsterdam: IOS Press,1998.