

Digital divide: Psychologists suggest ways to include the aging population in the tech revolution

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Technology is no longer what it used to be: Computers have replaced typewriters and landlines are in rapid decline. Technological advances are being made every day, making many of our lives easier and allowing information to be more accessible and available. However for some people, such as the aging population, technological progress can in fact be more limiting.

Psychologists Neil Charness and Walter R. Boot from Florida State University have outlined these limitations and suggested improvements in a recent paper published in *Current Directions in Psychological Science*, a journal of the Association for Psychological Science. They claim the key to including the aging population in information technology is to adopt design principles that are age sensitive.

According to the researchers, there are several age-related changes that affect technology use in older adults, including difficulties with vision, audition, motor control and cognition.

Specifically, older adults experience reduced visual acuity, color perception and susceptibility to glare. They also encounter a greater difficulty hearing high-pitched sounds and perceive a greater interference from background noises. As for motor skills, ailments such as arthritis can limit a person's use of technology as well. Aging is also associated with a general slowing of cognitive processes, decreased



<u>memory capacity</u> and attentional control, and difficulties with goal maintenance. It also takes older adults twice as long to learn new information compared to younger adults.

"These changes in function can slow performance and result in a greater number of errors as older adults interact with technology that was not designed with their capabilities in mind," explained the authors. The psychologists suggest web designers should avoid backgrounds that create low contrast for text, use larger fonts, minimize scrolling and provide navigation aids and instructional support. They also recommend designers undergo training that takes into account age-related perceptual and cognitive changes.

The authors explain that these changes will alleviate some of the stress of learning and using new technologies, but it will not eliminate difficulties all-together: "It is reasonable to assume that technology will continue to advance rapidly," they concluded. "Also, perceptual, cognitive and psychomotor declines will continue to occur with aging."

So while changes in web design and development will dramatically improve usability for older adults, there will always be hurdles to overcome alongside emerging technologies. But, as the researchers explain, there is hope that some technological advances, such as videogames designed to sharpen cognitive abilities, may ultimately be able to boost technological abilities in the aging population.

Source: Association for <u>Psychological Science</u> (<u>news</u> : <u>web</u>)

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