Chapter 9

Actual use of Computers and the Internet by Older Adults:
Potential Benefits and Risks

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ABSTRACT

Improving autonomy and quality of life for older adults has become an increasingly important aim of gerontological research. Computer and Internet applications hold great promise to maintain autonomy and increase quality of life. This chapter focuses on the impact of computer and Internet use on several aspects of quality of life and autonomy of older adults. It is based on an intervention program that included concise computer training and the use of a computer and the Internet for twelve months. The results of this randomized, controlled study showed no effects, neither positive nor negative, of computer and Internet use on cognitive functioning, autonomy, well-being and social network, the use of everyday technological devices, and subjective physical functioning. Overall, it was concluded that computer and Internet usage by healthy older adults is a safe activity, albeit with no robust advantage for cognitive capacity in healthy older adults.

INTRODUCTION

Older adults are at a disadvantage in dealing with computer technology. Many individuals aged 65 or older have not learned to use computers at school or in the workplace. As a result, older adults experience more problems when they are faced with computer technology than younger adults do (Charness, Bosman, Kelley, & Mottram, 1996; Czaja & Sharit, 1993; Kelley & Charness, 1995). It has been shown in several studies, for instance, that older adults need more time to learn to use a computer system, make more errors and require more help (e.g. Kelley & Charness, 1995). As a consequence, older adults experience more problems with everyday activities that are increasingly computer-based and therefore their ability to maintain autonomous functioning may be jeopardized.

While adaptation to computer technology to perform everyday activities is posing problems for older adults, it seems obvious that older adults could benefit from (computer) technological innovations. Many technologies and products may help older adults with some of their age-related problems and thereby assist them in maintaining their autonomy. For instance, telemedicine applications enable communication with health care providers from home, hand-held computers can support individuals suffering from forgetfulness by providing contextual cues, and warning systems in the home may be used to monitor the health and safety of older adults without interfering with their daily life routines.

One of the computer-related developments that already helps older adults to deal with age-related changes and which may have impact on their quality of life is the Internet. For instance, the Internet facilitates autonomy with respect to many of the everyday activities that older adults may be restricted in doing, such as banking and shopping (Bouchard, Ryan, & Heaven, 1986; Czaja, Guerrier, Nair, & Landauer, 1993; Rogers & Fisk, 2000). Also, the Internet provides people with access to many sources of information (Cody, Dunn, Hoppin, & Wendt, 1999; Czaja & Lee, 2003; White, et al., 2002). This may be practical information, such as public transportation timetables and opening hours, and also information that can be used for entertainment, such as book reviews, online courses and games. Additional information is related to personal health. For instance, the Internet may improve access to health information as well as to health services and care givers (Czaja, 1996; Czaja & Lee, 2001; Morrell, et al., 2000; Rogers & Fisk, 2000; Stronge, Walker, & Rogers, 2001) and facilitate health care management (Czaja, 1997; Kelley & Charness, 1995).

Besides the facilitation of autonomy in everyday routines, the Internet also provides a way to maintain and improve one's social network and communication. Many researchers expect that the Internet and services such as e-mail, instant messaging and newsgroups facilitate social interaction and communication (Czaja & Lee, 2001; Mead, Batsakes, Fisk, & Mykityshyn, 1999; Morrell, Mayhorn, & Bennett, 2000; Rogers & Fisk, 2000), and also create opportunities for meeting new people (Czaja, 1996; White, et al., 2002). As a result, it has been argued that computer use can decrease feelings of being left out of modern society (Jones & Bayen, 1998; Lawhon, Ennis, & Lawhon, 1996) and improve self-esteem and satisfaction with life (Jones & Bayen, 1998; Lawhon, et al., 1996; Mead, et al., 1999; Sherer, 1996). On a more general level, computers and the Internet could potentially improve general wellbeing and the quality of life. For example, it has been proposed that the Internet provides mental stimulation and challenge to older adults (Jones & Bayen, 1998; McConatha, McConatha, & Dermigny, 1994; Mead, et al., 1999).

Finally, as older adults have little experience with using computers and Internet facilities, learning such a new skill is a cognitive challenging endeavor. Moreover, cognitive functions known to decline with age, such as memory, speed of information processing and selective attention, are

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