

Commentary

Social Entrepreneurship and Adaptive Technology

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Cognitive Activity Helps Support Healthy Aging

A recent study found that cataract surgery slowed the rate of cognitive decline among the elderly [1]. Another study found that hearing aid use may help slow cognitive decline [2]. These findings add to the body of research pointing to a relationship between sensory decline and cognitive decline [1, 2, 3, 4, 5]. One of the possible mechanisms to explain this effect is a decreased ability to engage in cognitively stimulating activities. Animal models have demonstrated that lifelong environmental enrichment enhances brain plasticity, up regulates neurotrophins, reduces hyperphosphorylation of tau and levels of oligomeric β -amyloid, modifies the epigenome, and promotes resilience against stress [6, 7, 8, 9]. Recently, it has been reported that engaging in a variety of cognitive activities in a sitting position is associated better preservation of cognitive abilities [10]. In addition, intense cognitive stimulation has been recommended for aiding recovery from strokes [11]. These findings raise the question as to how to empower elders who have sensory decline to continue to participate in a variety of activities.

Social Entrepreneurship for Adaptive Technology

Social entrepreneurship – which harnesses the creativity and power of the free market enterprise to create multiple-bottom-line businesses that solve social problems in a sustainable manner – is part of the solution [12, 13]. Free market entrepreneurs are alert for opportunities to fulfill unmet needs [14]. Social entrepreneurs are visionaries whose alertness is amply nourished by a combination of the rewards of the free market system and a drive to make a difference [12,13,14]. In contrast, bureaucracy often stifles alertness and drive [14]. Thus free market entrepreneurship is the main driver of true, sustainable progress in society [13, 14, 15]. One inadequately met need is adaptive technology that empowers elders who have sensory decline to continue to participate in cognitively engaging activities and participate in the community. Entrepreneurs with experience in gerontology are making a difference by starting to fulfill this previously unmet need. Products have been developed with enlarged text, sound amplification, and special gerontechnological features (such as: enlarged computer icons, streamlined navigation on computer / smart phone screens,

apps targeted to seniors, smart wristbands, robot assistants, and smart home devices [16,17,18,19] Some home decorators are specializing in designing smart homes for seniors that enable seniors to continue to live at home, enjoy a variety of cognitively engaging activities, and remain connected with the community [20].

Summary

Many older adults suffer from sensory impairments [21]. Entrepreneurs are creating innovative products to promote healthy aging through adaptive technologies.

Conflict of Interest Statement

Dr. Ross is the founder of the Delaware Gerontology Institute, LLC which publishes extra-large print books for seniors along with other services. Information can be found at: www.DEGerontology.com

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