



Shih S-F [施勝峰], Lu Y-Y [盧煜揚]. *The discussion of middle-aged and older adults' multidimensional End-of-Life Care: Main path analysis. Journal of Gerontechnology and Service Management 2015;3(4):385-400*; doi:10.6283/JOCSSG.2015.3.4.385 Because a different treatment period is required, future curative care and supportive care in EOLC will be essentially complementary to each other. The performance of EOLC can be assessed according to quality of life among patients and their families. This study mainly discusses middle-aged and older adults at the implementation stage of end-of-life care (EOLC). First, we collect and analyze domestic clinical evidence; meanwhile, we organize references for tracing the development trajectory of EOLC in other countries, to compare to that at home. We use main path analysis, based on the algorithm concept of social networks, to trace the divergence and convergence of EOLC development abroad over the past twenty years. From interviews with focus groups and collection of clinically operational data, this study summarizes four EOLC domains: (1) high-standard EOLC; (2) high-quality health care; (3) high-level knowledge and competence; and (4) high-quality communication. Additionally, clinical workers learn multiple aspects of EOLC to satisfy patients' and families' real needs. Therefore, EOLC emphasizes patient-centered continuity of care to give patients with various illnesses more comfort care, by involving clinician and family nursing resources to address physical, psychosocial and spiritual suffering. Furthermore, we identify goals of EOLC and establish an internal and external coordination mechanism for clinical workers, called IPSO, which can help patients and families improve the quality of life and reach psychological rehabilitation.

Keywords: main path analysis, middle-aged and older adults, end-of-life care (EOLC), IPSO coordination mechanism

Lai H-J [賴弘基]. *Analysis of the interface and instructional design of e-learning website for older adults: A study of Australian U3A online. Journal of Gerontechnology and Service Management 2015;3(4):401-410*; doi:10.6283/JOCSSG.2015.3.4.401 The purpose of this study was to investigate the interface and instructional design of an e-learning website for older adults. The research subject was Australia's U3A online, a virtual learning site for people in the latter third of life (Third Age). We used document analysis to assess the interface design and learning activities of four selected courses. Universal design principals and instructional design guidelines were adopted in the data analysis. The results showed that the interface design of U3A online courses was simple and easy to navigate. The font size and amount of information displayed on the web pages were found to be appropriate for older adults. Results also indicated that each course's learning objectives were properly described, and contents were easy for learners to comprehend. The activities could stimulate commitment to learning. Nevertheless, diverse learning activities could be added to increase learners' motivation. Moreover, the study suggests that U3A online should improve its feedback system in order to support learners' need for interaction. The results of the study provide useful information for educators and practitioners designing e-learning courses for older adults.

Keywords: older adults, e-learning, interface design, instructional design

Liu I-C [劉宜君], Chen C-C [陳啟清]. *The research of toy need and market development for the new generation of elderly. Journal of Gerontechnology and Service Management 2015;3(4):411-420*; doi:10.6283/JOCSSG.2015.3.4.411 The post-war baby boomers are entering retirement age, and become the main consumer market of senior citizens, the elderly consumer market and create a lot of potential. Baby Boomers-it is the same generation that drove the growth of hula hoops, bell bottoms and personal computers. Traditional thinking among marketers is that Boomers spend less, have little interest in new products and technology, and have stubborn brand preferences. In reality, this could not be farther from the truth. They witnessed the age of the computer, mobile communications and the World Wide Web, and they have seen the explosion of communication in radio, television and telephone. Not only are they one of the most interesting demographics, but they are also the largest group in history. This study describes the elderly demand for toys and trends, as well as for the elderly person affected. The study found the toy can delay physical and mental function degradation, to slow down the aging effect. The toys can improve the sense of hearing, vision, touch and coordination of the elderly by sensory stimuli. They also have the function of relieved tedium, company and promoting interaction with family or partners. Elderly person can be 'play' to enhance the quality of life and increase their recognition and remain confident, and able to be toys strengthen interpersonal communication and interaction. Forming elderly toy market, and to provide products that satisfy user needs, such as elderly consumers to



easily make use of, and creativity of the product to attract consumers' attention. Elderly toy designed to stimulate the elderly focuses on sensory systems, hands and brain, limb movements, brainstorming, and from culture interested in playing, but also has the effect of boosting sentiment, to improve the quality of life of elderly people, increase their life satisfaction and pleasure. Through the market description of Japan, U.S.A., and Germany, the study describes the trend of the development for the elderly people's toys.

Keywords: baby boomers, new generation of elderly, elderly demand, toy, the quality of life

Lee W-T [李瑋婷], Lee C-F [李傳房]. *Context awareness applied to mobile guide in ecological field for active aging elderly. Journal of Gerontechnology and Service Management 2015;3(4):421-436;* doi:10.6283/JOCSG.2015.3.4.421 Context-aware mobile devices that assist in the guiding of tours have become a trend. This study aimed to understand system usability, workload and operational aspects of active and passive context-aware mobile guide in ecological field for active-aging elderly. Incorporating the views of the elderly users and tour managers, the researcher proposed design recommendations for context-aware mobile guides for active-aging elderly. This study developed active and passive mobile guides and content for the ecological field, and gained an understanding of system usability and workload through field experiments and semi-structured interviews involving thirty active-aging elderly. Finally, the researcher interviewed two managers of tour organizer SunLinkSea. The results showed that designing IT products with input from active-aging elderly can reduce the learning threshold for them, enabling them to make quick and effective use of the devices. Active-aging elderly are more context-aware and made more use of the devices, which also required less physical effort from the elderly users. Additionally, it was easier for managers to implement passive context awareness in the ecological field. Applying context-aware mobile guides to the ecological field can enhance quality of service and the tourism experience for both managers and active-aging elderly.

Keywords: active-aging elderly, mobile guide, context-awareness, ecological field

Yeh W-Y [葉婉榆], Chen R-Y [陳獻瑜]. *Age differences in physical and mental health conditions and workplace health promotion needs among workers—An example of accommodation and catering industry employees. Journal of Gerontechnology and Service Management 2015;3(4):437-452;* doi:10.6283/JOCSG.2015.3.4.437 Workplace health promotion (WHP) has been shown to prevent occupational disease and workplace injury as well as increase health productivity; however, WHP needs among workers may vary significantly by age. Therefore, this study examines age differences in WHP need to provide empirical evidence for policy related to the aging workforce in Taiwan. A self-administered questionnaire survey was conducted of employees in a company in the accommodation and catering industry in Taipei from June to October 2012. The survey yielded 310 effective questionnaires from employees aged from 20 to 65 (return rate 90%). Participants were asked to provide information regarding demographic/work background, physical/mental health conditions and lifestyle behaviors, occupational injury and burnout occurrence, workplace stressors, and stress-related presenteeism. In addition, four employees and supervisors were invited to participate in in-depth interviews. Results showed that compared with younger workers, seniors reported a higher percentage of cardiovascular discomfort but more positive health behaviors such as less smoking, more regular exercise, and healthy dietary habits. Younger workers experienced more occupational injuries, burnout and mental disturbance, but better adaptability to new information systems or technology importation. After adjustment for gender and employment grades, the above patterns remained similar. Results from the qualitative interviews showed that the design of WHP programs should be tailored to the needs of the respective individuals. This study suggests that elder workers need to make appropriate work arrangements to control or improve physical symptoms, and that management strategies to tackle elder workers' difficulties with learning computer applications are also needed. On the contrary, younger workers need more assistance and guidance to maintain positive lifestyles. This study has practical implications for management and WHP practitioners.

Keywords: workplace health promotion (WHP), middle-aged and older workers, age differences, needs assessment

Chang C [張駿], Lee C-F [李傳房]. *A study on service design for senior tourists from the aspect of physiological load. Journal of Gerontechnology and Service Management 2015;3(4):453-468;* doi:10.6283/JOCSG.2015.3.4.453 The proportion of elderly people who choose outdoor activities for leisure has increased and this has drawn attention from those who study elderly tourists and plan



services for them. To enhance the user experience of elderly people during outdoor activities, service design that incorporates the concept of 'user centrality' and 'co-creativity' may be the best design solution. However, most methods for service design are based on behavior analysis; only a few use physiological load as a basis. Neglecting the level of physiological load during outdoor activities may affect user experiences, especially for elderly people, whose physical functions diminish with age. The purpose of this study is to demonstrate a service design process and execute demand searching from the aspect of physiological load. In this study, we embarked on the demand searching stage by observing physiological data of elderly tourists during outdoor activities. We then analyzed the results of physiological load using the results of semi-structured interviews and participant observation to ascertain demands from the aspect of physiological load, after which we proposed service design content. From the experiments, we discovered three phenomena – 'dynamic status change', 'effect of previous activities on stamina' and 'variation in degree of status change under same environment' – that describe the stamina status of elderly individuals during outdoor activities. We then developed a model for evaluating tourists' status and the difficulty of an environment that helps service designers craft appropriate services for elderly tourists.

Keywords: elderly, tourist, service design

Lin Y-C [林俞均], Hsu W-C [許雅瑜], Hsiao J-L [蕭昭悌], Lai J-L [賴靖璇], Tsai P-L [蔡碧藍]. *Good vest, combinatorial use of hands and brain. Journal of Gerontechnology and Service Management 2015;3(4):469-478*; doi:10.6283/JOCSG.2015.3.4.469 In 2010, 35.6 million people around the world were diagnosed with dementia, and the number has increased by 7.7 million every year. Moreover, every 4 seconds, there is a newly diagnosed dementia patient. The aging process often leads to decreased power in the muscles of the hands, which can limit the range of daily activities and increase the burden on family caregivers. Therefore, for elderly persons living with dementia, it is important to generate a product to train cognition and muscle power. After analyzing and modeling a range of such products, many of which are difficult to use, expensive, and cumbersome to carry, we developed the Good Vest for Combinatorial Use of Hands and Brain, which offers significantly greater benefits in exercising joints, muscles and cognition. For example, as the patient throws a ball into the vest with cognition training cards, the vest will ring with feedback for correct answers. It is fun, easy to handle, inexpensive, and conducive to interpersonal activity. In addition, once it is granted approval by the Institutional Review Board (IRB), the vest will be available to elderly patients in nursing homes or long-term care facilities.

Keywords: cognitive training, waistcoat, strength training

Chang H-C [張惠甄], Teng Y-C [鄧育琪], Luo Y-N [羅雅妮]. *Harmless modified innovation wheelchair. Journal of Gerontechnology and Service Management 2015;3(4):479-484*; doi:10.6283/JOCSG.2015.3.4.479 There are many bedridden, disabled, or dementia-suffering elderly, as well as those in the mental and physical disability populations, who are mobility impaired. These people must often use wheelchairs to maintain daily activity, making wheelchairs necessary long-term assistive devices. However, when using a wheelchair to move, the elderly, disabled or others with mobility problems may slip out of the chair because of physical weakness, which can easily lead to injury. Secondly, the modern configuration of wheelchairs includes no place for urine catheter bags and their calf support functions, often resulting in caregivers putting the bag on the leg of the case or tying it to the calf, which can easily lead to retrograde urinary tract infections. The Innovation Wheelchair is designed for the bedridden elderly or otherwise disabled to decrease caregiver distress when using a wheelchair, and increase their mobility and quality of life. This Innovation Wheelchair improves on the traditional brake wheelchair to reduce elderly and frail patients' slipping over or leaning forward. This novel invention includes U-shaped pads with seat belts on both shoulders for better stability. Also, the quality of the material ensures that it will not chafe or irritate the skin. The wheelchair is designed with an additional J-shaped metal frame on which to place a urine catheter bag, and we've created a comfortable calf compartment to prevent the leg falling backwards.

Keywords: innovation wheelchair, urine catheter bag, U-shaped pads

Yeh-Liang Hsu [徐業良] PhD, editor of the Journal of Gerontechnology and Service Management
 E: mehsu@saturn.yzu.edu.tw
 doi:10.4017/gt.2016.15.1.001.00