A. PARK, H. TSANG, E. HWANG. Evacuation simulation of older adults from hi-rise buildings. Gerontechnology 2010;9(2):241; doi:10.4017/gt.2010.09.02.312.00 **Purpose** This research study models and simulates the behaviour of older adults when they evacuate from high-rise buildings in the case of an emergency such as fire. **Method** Agent-based models of older adults were developed based on simple parameters such as sight range and speed of walking. These agents are autonomous and find their escape routes in the case of emergency. According to a literature review, the knowledge of evacuation routes obtained by fire drills plays an important role when people need to quickly and safely evacuate from high-rise buildings[1]. To distinguish two different behaviours of older adults, depending on whether or not they had fire drills, two kinds of path choices were modeled: one had the full knowledge of evacuation routes which are the shortest paths from the current position of the agent to the closest exits on the ground level of the buildings; the other had to find the evacuation routes on each floor using the visual sense. The former model represents those who fad fire drills and gained the knowledge of the evacuation routes. The latter illustrates those who have not had any fire drills and do not know which ways would lead them to the closest exits. These older people panic in the case of an emergency and try to find any close stairs or elevators on each floor. After the agents with these two different behavioural models were developed, a multi-agent simulation system was built using a 3D game engine called Darkbasic Professional. This system allows users to create a high-rise building with different numbers of floors and different numbers and locations of stairs and elevators. The different types, number and location of agents can be placed on each floor. Fires can be simulated on different floors and at different locations within the building. The system shows 3D animation of agents' movement through the transparent high-rise building. Using this system, several realistic evacuation simulations were run and their results were compared with those of experiments done with real people. **Results & Discussion** The simulation results show that those who have knowledge of the evacuation routes through fire drills escape quicker than those who do not. This agrees with the results of human experiments, although the exact measurement of the time that is required to evacuate needs refinement in the simulation system. This simulation system can be a great research tool for similar research studies and can also be used to educate older adults who live in high-rise seniors' apartments.

References

1. Blackley WF. High-rise fire and life safety: Hazards and education for older adults. Wilmington: Wilmington Fire Department (NC); 2006 (December)

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A. PEINE, E. MOORS. Images of aging: How science and technology studies and gerontology might benefit each other. Gerontechnology 2010;9(2):241-242; doi:10.4017/gt.2010.09.02.222.00 **Purpose** This presentation tries to link two hitherto largely unrelated bodies of the social science and engineering literature together – the social study of science and technology, commonly referred to as Science and Technology Studies (STS) and Gerontechnology. **Method** We develop our argumentation in three steps: (i) lay out the basic tenets of Science and Technology Studies (STS), (ii) circumscribe what this could contribute to the field of Gerontechnology and vice versa, and (iii) define the cornerstones of an agenda for future STS research inspired by these mutual benefits. **Results & Discussion** STS perceives science and technology to be the result of social practice, while, at the same time, social practices emerge and become reinforced through the use and production of technology. A focal point in the STS literature is the entanglement of technology use and technology design. Forms of use co-evolve with technology design, and user needs are thus not just 'out there' and ready to be elicited before actual use takes place. The STS literature has explored the relationship between use and design for a number of societal issues, such as sustainability, gender, disability or health. Aging, however, has thus far not been part of the STS agenda (with only a few remarkable exceptions[1-3]). Our contribution makes a first step towards filling this gap. For a long time, Gerontechnology has looked at the particular link between technology and aging.[4] An STS of aging, therefore, has much to learn from Gerontechnology. We specify this around issues of user-producer interactions, person-environment interactions and technology generation. At the same time, we believe that there is also a contribution STS could make to the field of Gerontechnology. In particular, we suggest that STS insights connect well with Lawton's attempt to integrate technology into Riley's sociological explanation of aging[5,6]. We develop how Lawton's model could benefit from a richer understanding of how the practices of technology use and production constitute and reinforce certain images of aging. We