

R. FUKUDA, S. YONEMURA. *Acceptance of input devices by older adults. Gerontechnology 2010;9(2):282; doi:10.4017/gt.2010.09.02.193.00* **Purpose** In daily life, information and communication technologies (ICTs) are applied in various forms. However, such technologies leave older adults behind. Many older adults do not know how they can benefit from ICTs. On the other hand, some older adults enjoy ICTs. Computer and Internet use seems to contribute to older adults' well-being and sense of empowerment¹. Difficulties for older adults are related to hardware, for example, the conventional computer mouse. Many studies report that older adults, even experienced users, have difficulties due to age related deterioration in motor control²⁻⁴. Easier devices, such as the touch panel screen, could help older adults. Difficulties with using a mouse may also be related to its unfamiliarity. If an input device is similar to familiar devices such as TV remote control, transfer of former knowledge could be easier. Therefore, acceptance of different input devices by older adults was studied in actual use. **Method** 16 adults, aged between 58 and 77, (eight males and eight females) took part in this experiment. Seven "novice" participants had no, or little, experience using computers, they could only use a computer with support from other people. The other nine, 'experienced' participants, had experience using computers or word processors. The participants were asked to browse information on the World Wide Web (WWW) using three different input devices: conventional mouse and keyboard, touch screen, or Nintendo Wii remote control. During browsing, their behaviour was observed and video recorded. Before and after each trial, participants evaluated the devices with regard to easiness of holding, moving, pointing, and clicking, usability, familiarity, and acceptance on a 7-point-Likert-scale. **Results & Discussion** Before trial, the acceptance of Wii controller by experienced participants was worse than other two devices, whereas touch screen was accepted better than other devices by novice participants. With regard to first impression, acceptance seemed to be related with familiarity in the case of experienced participants and intuitiveness for novice participants. During trials, many troubles with click, by Wii controller, and touch, on touch screen, were observed for both groups. The Wii controller was difficult to aim at a small hyperlink and keep aiming while pressing the button. Frequently the cursor moved away from the aimed hyperlink. On the touch screen, most of the participants could not grasp how strong and how long they should touch the screen, so that they had to repeat touching until they could finally click the aimed hyperlink. Especially novice participants suffered from such difficulties and required longer time to operate the devices. The experience in the trial influenced the evaluation after trial. The acceptance of touch panel got worse than before, because it was far harder to operate than expected. In contrast, acceptance of Wii controller by experienced participants and conventional mouse by novice participants was improved. They seemed hard to use, but actually they were not. These results showed that actual acceptance of devices should be investigated by trial use, even apparently "good" devices, in order to help older adults benefit from ICTs and other technologies.

References

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