

## 'Braintrainer Plus'

### Keywords

Braintrainer

### Abstract

*'Background: Old age is often associated with age-related cognitive decline. Computerized cognitive training programs can improve cognitive functioning of the elderly people. However, such programs typically suffer from low uptake and usage in practice. This explorative cross-sectional study examined the use of the Brain Trainer Plus (BTP), a computerized cognitive training device developed for use in care homes for the elderly in the Netherlands, and investigated which environmental factors and user characteristics were associated with (non-)usage of the BTP. The attitudes and beliefs of the staff members were also taken into account (Mohan, 2015).'*

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### Analysis

*'The purpose of this study was to examine how frequently the BTP is used in practice and which environmental and user characteristics are associated with (non) usage of the BTP. Overall, the BTP suffers from low usage. Less than 30% of the residents use the device frequently. Social influence was the environmental factor associated with BTP usage. This is in line with previous studies, which emphasized the importance of a supportive social environment (Czaja et al., 2006; Elliot, Mooney, Douthit & Lynch, 2013; Nägle & Schmidt, 2012; Saunders, 2004). The attitude of the staff members of care homes towards the CCT program could influence use of the program. When looking at the staff members in this study (n=35), in general over 70% evaluate the BTP with a score of 7 or more and almost 70% claim the BTP to promote social interaction between the residents, so they are quite positive about the device. Still the BTP suffers from low usage. Future studies should investigate the attitudes and behaviors of the staff regarding CCT programs in care homes in order to learn more about their influence on usage (Mohan, 2015).'*

*'Indeed we found some beliefs and attitudes to be important, users enjoyed being active on the BTP more and experienced a higher BTP self-efficacy compared to the discontinued users, this corresponds to our hypotheses. A reason for this may be that a larger percentage of the users (74%) are residents of the somatic unit compared to the discontinued users (62%). The elderly people from the somatic unit are better cognitively capable to remember the multiple-choice answers that form an important part of the BTP games and therefore have more success in answering the questions. Czaja et al. (2006) cited that the more success one experiences, the more one enjoys being active on the device and consequently*



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ones confidence/self-efficacy on the device grows. Along these lines, we also expected frequent users of the BTP to have a lower computer anxiety compared to the discontinued users. However, we found no significant differences between the two groups on computer anxiety. Both groups felt relatively apprehensive in using a computer. Similarly, both groups rated their computer skills as relatively poor. Apparently, using the BTP regularly and having a high device-specific self-efficacy has no influence on the general computer anxiety or skills among the elderly. Because the users knew the BTP, they could easily manage it, but this does not mean they could manage a general computer, therefore they still felt apprehensive with computer use in general (Mohan, 2015).'

## Conclusion

'Perceived enjoyment was one of the user characteristics we found in this study associated to BTP usage. Regarding perceived enjoyment an elderly female resident of a 35 psychogeriatric care unit responded: "I really enjoy being active on the BTP. All day long I am confronted with how much I forget, but when I do the quizzes on the BTP I notice how much I still know." This quote is in line with the research of Van der Heijden (2004) who states that user acceptance of technology is determined by intrinsic and extrinsic motivation: "An extrinsically motivated user is driven by the expectation of some reward or benefit external to the system-user interaction. An intrinsically motivated user is driven by benefits derived from the interaction with the system per se" (p. 697). From the definition of perceived enjoyment ("the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequence that may be anticipated" (Davis et al. 1992, p. 1113) it is clear that, it focuses on intrinsic motivation. More research is needed regarding perceived enjoyment, since it could be influential in technology acceptance of older users, with fun rather than productive use being the main objective for using technology. Future program designers should try to make the CCT program as enjoyable as possible for the participants in order to stimulate use, by for example personalizing the content or incorporate interactive options. The BTP has this option, but overall staff members do not use them and residents do not know how to use them (Mohan, 2015).'

## Links

Mohan, J. (2015). *Computerized Cognitive Training for the Elderly A study evaluating use of the Brain Trainer Plus™ in care homes for elderly people*. Leiden: Faculty of Social Sciences, Universiteit van Leiden.

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