

Motivation for playing competitive and collaborative games in persons with stroke

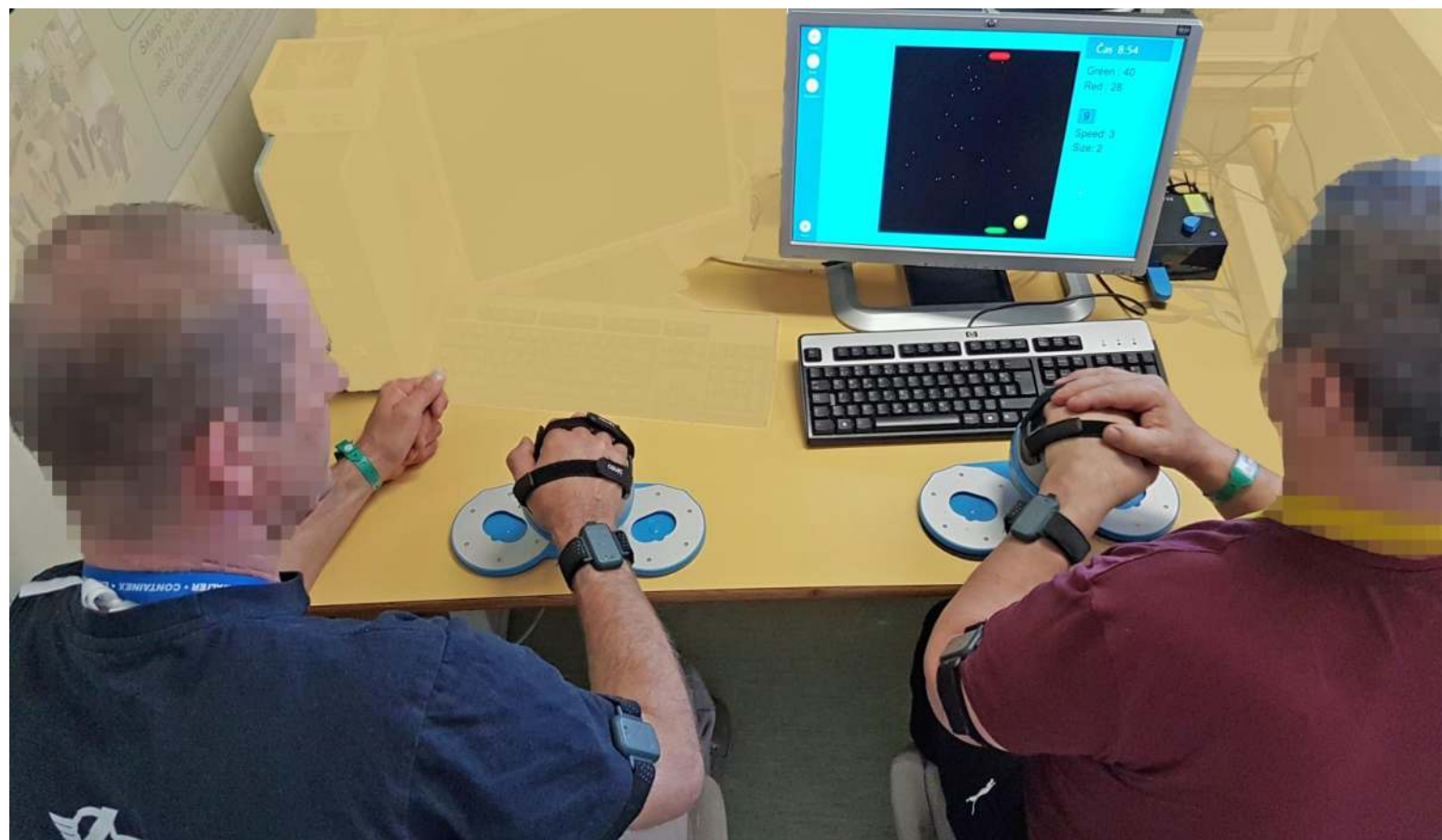
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Introduction

Recently ischemic stroke hits a greater part of population under 55 according to the British Stroke Association. The older population is more reluctant to games and virtual reality, while the younger are motivated to perform regular physiotherapeutic tasks as exergames.



Methods

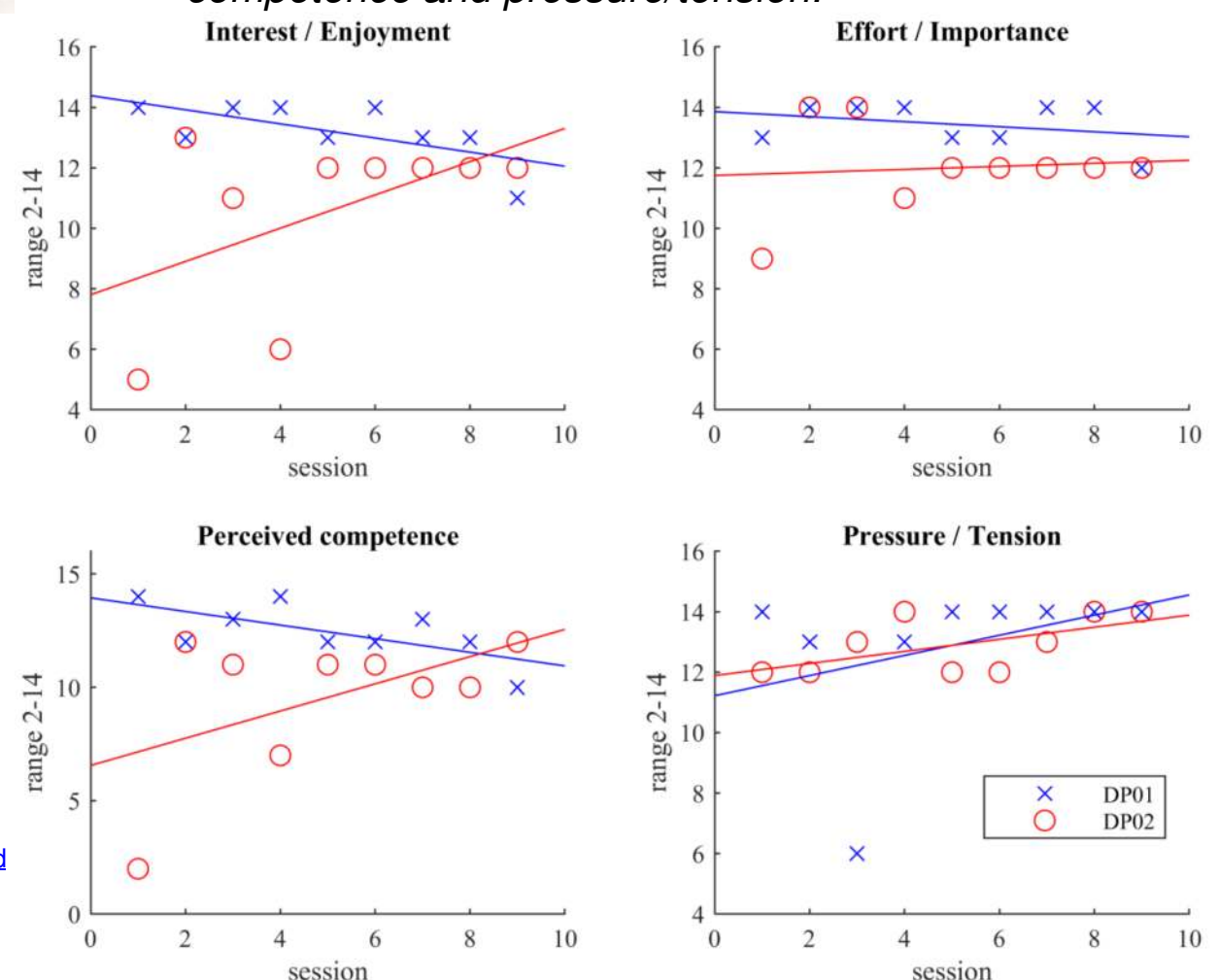
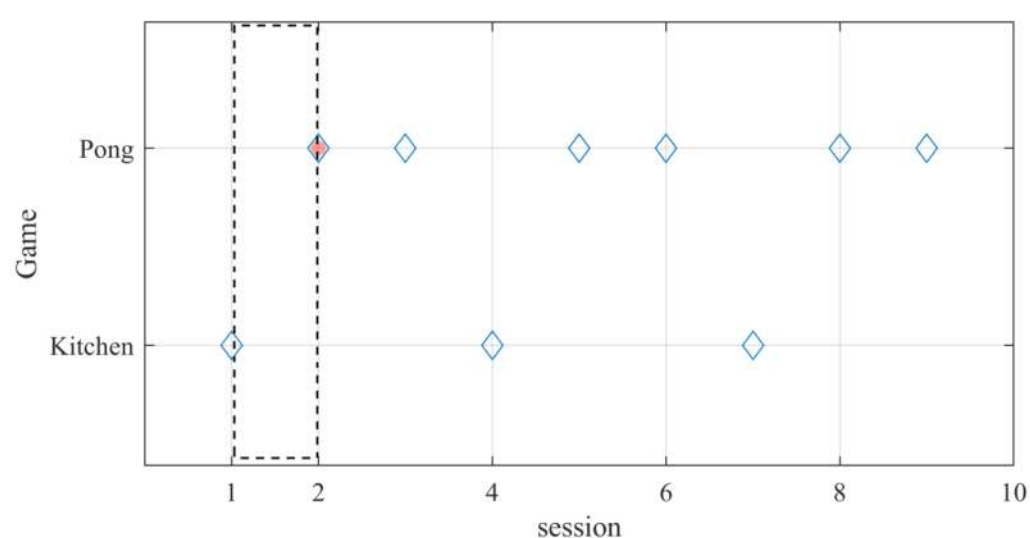
We have developed two types of exergames for training in pairs; cooperative kitchen and competitive pong. Participants controlled the game by moving the affected upper extremity. The movement data were assessed by Bimeo device (Kinestika Ltd., Slovenia). 2 patients with stroke (hemorrhagic/ischemic CVI, M/F, 72/53 years, left side impaired, Box & Blocks test 44/37, respectively) participated in the 3 weeks (9 sessions of 15 min) study. Both chose to play kitchen 3 times and pong 6 times.

Results

The results demonstrated that the older participant decreased interest/enjoyment, but kept effort and importance at the same level, while the younger significantly increased all motivation (intrinsic motivation inventory) parameters, particularly interest/enjoyment and perceived competence. Both participants have slightly increased pressure/tension.

Graphs below show results of pairs of participants in interest/enjoyment, effort/importance, perceived competence and pressure/tension.

Graph below shows that the game Pong was selected more frequently than the game Kitchen.



Goršič M, Cikajlo I, Goljar N, Novak D. [A multisession evaluation of an adaptive competitive arm rehabilitation game.](#) *J Neuroeng Rehabil.* 2017 Dec 6;14(1):128

Goršič M, Cikajlo I, Novak D. [Competitive and cooperative arm rehabilitation games played by a patient and unimpaired person: effects on motivation and exercise intensity.](#) *J Neuroeng Rehabil.* 2017 Mar 23;14(1):23.