

## **Abstract**

**Title:** Virtual Reality in Comprehensive Rehabilitation of People with Spinal Cord Injury

**Objectives:** The main aim of this work was to find out how the virtual reality in comprehensive rehabilitation affects individuals with spinal cord injury who took part in social rehabilitation stay at Centrum Paraple, o.p.s. The research was focused on the awareness of virtual reality, probands' subjective reactions to therapeutic video, and comparison of these reactions between individuals with complete and incomplete spinal cord injury. Furthermore, potential interest in this form of therapy within the future comprehensive rehabilitation of probands was investigated.

**Methods:** Twenty seven probands in the 18–70 age range, with complete or incomplete spinal cord injury took part in the quantitative research. During their social rehabilitation stay at Centrum Paraple, o.p.s., probands were shown three and half minute long therapeutic video through VR headset. Probands completed an input and output questionnaire. The input questionnaire mapped previous experience with virtual reality and inquired about probands' interest to try out virtual reality during social rehabilitation stay. The output questionnaire focused on subjective evaluation of perceptions and feelings as well as closer information about probands.

**Results:** Out of the research group, 30 % of probands had a past experience with virtual reality. Only individuals with incomplete spinal cord injury (70 % of them) experienced physical subjective perceptions during or after the screening of the therapeutic video. Results proved no relation between the time of origin of a probands' spinal cord injury and the incidence of these perceptions. Only psychological subjective perceptions were experienced by individuals with complete spinal cord injury. Most of the probands (19) considered virtual reality positively. In total 24 probands (96 %) are able to imagine virtual reality as a beneficial part of therapy within comprehensive rehabilitation, despite complications caused by virtual reality during the screening.

**Keywords:** Therapeutic Video, Mirror Neurons, Spinal Cord Injury, Social Rehabilitation Stay, Centrum Paraple, o.p.s.