

Title of Intervention: Computer Games and Virtual Reality as Therapy

Intervention Strategies: Individual Education

Purpose of the Intervention: To decrease driving phobia following a motor vehicle accident

Population: Individuals who met criteria for situational type-driving specific phobia

Setting: Health care facility-based

Partners: A local hospital referred patients

Intervention Description:

- Individual Education: The intervention took place in a darkened room. Participants were introduced to computer game driving environments with different difficulty levels and to virtual reality driving environments. The game reality program involved driving along empty rural roads for initial sessions, gradually building up to driving at greater speeds with greater traffic density in rural and city environments. As participants became more comfortable in the game reality driving environment, they were set tasks such as overtaking, handling skids, negotiating obstacles and finally entering accident situations including crashing into other vehicles with loss of control. The virtual reality program involved driving through a city environment and through a connecting tunnel while wearing a head mounted display. Diaphragmatic breathing was taught to manage physical symptoms of anxiety and restructure irrational thoughts.

Theory: Not mentioned

Resources Required:

- Staff/Volunteers: Not mentioned
- Training: Not mentioned
- Technology: Computer
- Space: Room to conduct intervention and store equipment
- Budget: Not mentioned
- Intervention: Computer and 17" monitor, Driving Phobia virtual driving software, London Racer, Midtown Madness II and Rally Championship computer games, Wingman Formula Force GP steering wheel with force feedback and accelerator and brake foot pedals, desk, car seat, platform, two subwoofers, two stereo speakers, A VFX-3D Head Mounted Display
- Evaluation: Heart rate monitor, Mini International Neuropsychiatric Inventory (MINI), the Fear of Driving Inventory (FDI), Clinician Administered PTSD scale (CAPS), the Hamilton Depression Scale (HAM-D)

Evaluation:

- Design: Before and after
- Methods and Measures: Participants were evaluated at the beginning and end of therapy with measurements of physiological responsivity (heart rate), subjective ratings of distress (SUD), rating scales for severity of fear of driving (FDI), Posttraumatic Stress Disorder (CAPS) and depression (HAM-D) and achievement of target behaviors.

Outcomes:

- Short Term Impact: Pre- and post-intervention comparisons showed significant post-intervention reductions on all measures. Further analysis of the FDI showed significant reductions in all three subscales: travel distress, travel avoidance and maladaptive driving strategies.
- Long Term Impact: Not measured

Maintenance: Not mentioned

Lessons Learned: The findings of this intervention suggest that game reality and virtual reality may have useful roles in the treatment of driving phobia post-accident, even when conditions such as post-traumatic stress disorder and depression still exist.

Citation(s):

Walshe, D. G., E. J. Lewis, et al. (2003). "Exploring the use of computer games and virtual reality in exposure therapy for fear of driving following a motor vehicle accident." *Cyberpsychol Behav* 6(3): 329-34.