

Experimental Variation of Social Stress in Virtual Reality - Feasibility and First Results

Jonathan Scheeff¹, Klaus Hesse², Philipp A. Schroeder², Stefan Klingberg² & Christian Plewnia²

¹Department of Psychology, University of Tübingen, Germany

²Department of Psychiatry and Psychotherapy, University of Tübingen, Germany

Social interactions might lead to increased stress levels in patients with psychotic disorders. Impaired social stress tolerance is critical for social functioning and closely linked with symptom relapse and hospitalization. We present an interactive office built-up in virtual reality (VR) to allow for a systematic investigation of social feedback effects on psychopathology and cognitive performance.

Patients with psychotic disorders (PP, N=21) and matched healthy controls (HC, N=20) were examined with a VR simulating an open-plan office. In a randomized, controlled cross-over design, participants were introduced to virtual co-workers (avatars) and requested to ask avatar colleagues for task assistance. Social feedback in each of the two sessions was either cooperative or rejective in randomized order.

The office environment was tolerable for most PP and all HC, five PP and zero HC dropped out for any reason. Most drop-outs reported simulator sickness, no severe symptom exacerbation occurred. Statistical trends indicated heightened paranoid ideations for PP after social rejection. Of note, measures of presence were higher in PP than in HC.

The use of the VR social scenario is feasible and tolerable. However, drop-outs due to unspecific discomfort are more likely in PP than in HC. Further studies for the understanding of paranoid ideation and subjective presence are needed.