

(34) Investigating the relationship between presence and emotion using virtual mood induction procedures

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Abstract

Introduction

The following paper describes a study designed to investigate the relationship between affective responses and presence using virtual mood induction procedures within the EMMA project (Engaging Media for Mental Health Applications) part of the European Commission Future and Emerging Technologies Presence Research Initiative. Presence is said to be determined by media form, media content and user characteristics, although little research has examined the impact of media content on feelings of presence. The objective of the current study was therefore to determine the interrelationship of presence and emotion using validated virtual mood induction procedures in a normal population.

Method/Tools

127 participants from Goldsmith's College, were shown a three minute flythrough of a Virtual Park that was designed to induce either a Sad, Happy, Anxious, Relaxed or Neutral state. Participants were asked to rate how they were feeling prior and post exposure on the Positive Affect Negative Affect Schedule (PANAS: Watson, Clark, & Tellegen, 1988) and a Visual Analogue Scale (VAS: assessing levels of happiness, anger, disgust, relaxation, fear, sadness, and surprise). In addition post exposure participants were asked to remember how they felt "during the experience" on the VAS and were asked to fill in the UCL Presence Questionnaire (UCL-PQ: Slater, Usoh & Steed, 1994) and the ITC-Sense of Presence Inventory (ITC-SOPI: Lessiter, Freeman, Keogh, & Davidoff, 2001). Correlations were conducted between change scores on the PANAS and VAS with the UCL-PQ and the ITC-SOPI.

Summary of Results

Preliminary validation of the Parks showed that the Sad and Anxious Parks induced the desired mood state. Correlations between the Emotion and Presence questionnaires showed that an increase in negativity when exposed to the Anxious Park was associated with an increase in spatial presence and naturalness. Conversely increases in sadness due to exposure to the Sad Park were associated with decreased naturalness. Associations between non-target emotion states and presence, and also valence and presence were also observed.