

Virtual reality as a relaxation tool during pregnancy

CULOT Stéphanie¹⁻⁵, WAGENER Aurélie², SOHET Elisa³⁻⁵ & GAUGUE Justine⁴⁻⁵

¹ PhD, Teaching Assistant (stephanie.culot@umons.ac.be); ² Lecturer, Health Psychology, Department of Psychology, University of Liège, Belgium; ³ Master Student in Psychological Sciences; ⁴ Professor, Head of department; ⁵ Clinical Psychology Department, University of Mons, Belgium

INTRODUCTION & OBJECTIVES

- Pregnancy is known to be a potentially stressful time [1]
- Stress during pregnancy can negatively impact the baby and affect its weight, organ development, behavioral development, or disrupt the term of the pregnancy [2]
- Prenatal stress can also cause pregnancy symptoms (nausea, vomiting), hyperemesis gravidarum, sleep disturbances, and labor arrest [3]
- Furthermore, prenatal stress can lead to long term consequences on the child development, whether it be at the behavioral, cognitive or emotional level [4-5]
- While the impacts of prenatal stress are relatively well studied, the ways to address them are not
 - There is a need to develop prevention programs to reduce the consequences of prenatal stress
- In the context of stress and anxiety treatment, the use of virtual reality has proven its effectiveness [6]
- Virtual environments of natural landscapes are known to be beneficial for relaxation [7-8]
 - This study aims to investigate their effects in the perinatal context

METHOD

- This research is conducted in collaboration with several research teams in order to test the virtual environments in different clinical contexts :

- anxious patients (ULiège)
- cancer patients (Montpellier)
- post-intensive care patients (CHU of Liege)
- **pregnant women (UMONS)**

Participants

- N = minimum 50 pregnant women
- **Inclusion criteria** : 18-50 years old, fluency in French
- **Exclusion criteria** : epileptic problem, balance problems, propensity to migraines, photosensitivity, inner ear problem, severe psychiatric illness, visual or auditory problems

Procedure

- T0 : socio-demographic questionnaire (online)
- T1 : first data collection (week 1)
- T2 : second data collection (week 2)

Instruments

Pre- and post-test phase :

- Perceived Stress Scale (PSS) (Cohen et al., 1983)
- Antenatal Perceived Stress Inventory (APSI) (Razurel et al., 2014)
- General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995)
- Smith Relaxation States Inventory (SRSI) (Corbeil et al., 2015)
- Cognitive Emotional Regulation Questionnaire (CERQ) (Jermann et al., 2006)
- Igroup Presence Questionnaire (IPQ) (Schubert et al., 2001)
- Cambridge Exeter Ruminative Thought Scale (Mini-CERTS) (Douilliez et al., 2014)

Pre- and post-immersion phase :

- Visual analog scales (anxiety, stress, muscle tension)
- Simulator Sickness Questionnaire (SSQ) (Kennedy et al., 1993)
- Heart monitoring

Virtual environments (created by the University of Liege) :

