Being virtually with others makes me happy - The influence of immersion, social and non social video contents on positive emotion induction
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To cite this version:
Katarina Pavic, Laurence Chaby, Thierry Gricourt, Dorine Vergilino-Perez. Being virtually with others makes me happy - The influence of immersion, social and non social video contents on positive emotion induction. SAS Positive Emotion Preconference, Mar 2022, Virtual Conference, France. hal-03975689

HAL Id: hal-03975689
https://hal.sorbonne-universite.fr/hal-03975689
Submitted on 6 Feb 2023

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INTRODUCTION

Positive emotions have health benefits [1] and are tightly linked to well-being [2]. Critical issue: How to foster positive emotions and experiences among users? Positive technology framework suggests technologies may improve users’ subjective, physiological and social well-being [3].

- Virtual Reality (VR) appears as a suitable technology for fostering positive emotions.
- But VR’s efficacy has mostly been assessed with “subjective” measures (questionnaires), more rarely with “objective” ones (e.g., physiological measures).
- Widespread use of natural (i.e., nonsocial) video contents for inducing positive emotions [4], yet social contents can have an influence on induced emotions and arousal [5].

AIM OF THE STUDY

- Investigate immersion (i.e., VR vs Screen presentation) effects on positive emotion induction.
- Comparing social and nonsocial (landscape) contents influence on elicited emotions.
- Confronting “subjective” and “objective” measures for assessing participants’ emotional states.

MAIN CONCLUSION

- The immersive nature of VR leads to more positive emotions and arousal on both subjective and objective levels.
- Differences between video contents:
  - Nonsocial contents seem particularly efficient on a physiological level = Natures’ well-known benefits for relaxing and restoring resources [5].
  - Social contents lead to an increased subjective and physiological arousal.
- Potential applications: foster positive emotions through VR in more vulnerable and/or isolated users (e.g., elderly users).

REFERENCES


METHOD

Participants: 26 healthy undergraduate students
16 women, 10 men, 23 years ± 2.6
Non-inclusion of participants having major psychiatric and/or neurological disorders (epilepsy).

Material: 25” screen (resolution of 1920 x 1080 pixels); HMD Samsung Odyssey+ (110° Fov, resolution of 1440 x 1600 pixels); Empatica E4 wristband

Stimuli: Eight 360° videos shot with a GoPro 360° camera and a tutorial video

Procedure

- Consent
- Demographic data
- Visual Analogical Scale (VAS)
- HADS
- SAM
- Presence

RESULTS

Valence and arousal ratings regarding technology and video contents

Temporal changes of Skin Conductance Level (ΔSCL) and Heart Rate (ΔHR) regarding technology and video contents

Significant Technology x Content x Time interaction (p < 0.01) for ΔSCL
- SCL increase when watching social video contents in VR compared to a screen

Significant Technology x Content x Time interaction (p < 0.01) for ΔHR
- Important HR deceleration while watching nonsocial contents in VR compared to screen

Significant Technology x Content x Time interaction (p < 0.01) for ΔSCL
- SCL increase when watching social video contents in VR compared to a screen