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Happiness through virtual lens: The influence of immersion, social and nonsocial contents on positive emotion induction

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INTRODUCTION

⇒ Positive emotions have health benefits (1) and are tightly linked to well-being (2)
⇒ Critical issue: How to foster well-being and positive experiences among users?
⇒ Positive technology framework suggests technologies may improve users’ subjective, psychological and social well-being (3)
  ○ Virtual Reality (VR) appears as a suitable technology for inducing positive emotions and promoting well-being
  ○ 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 in VR studies, yet social contents can have an influence on induced emotions and arousal (4)

METHOD

Participants: 28 healthy undergraduate students
16 women, 12 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 Analogue Scale (VAS)
HADS

ORDER 2

Habituation
2 min baseline

SAM / VAS
Presence

ORDER 1

Tutorial video
1 x per media

Pseudo-randomized order of clip watching
4 videos watched per technology

Preferences
VR/Screen Content

RESULTS

Effect of Media and Content on Skin Conductance Level Change (ΔSCL)
Significant SCL decrease when watching nonsocial contents in VR compared to a screen
⇒ Natures’ relaxing properties
Same difference, in favor of VR, for social contents
VR tends to elicit higher levels of physiological arousal compared to a screen

Main effect of content: Social videos are perceived as more positive and arousing than nonsocial video contents
No Media x Content interaction on valence or arousal ratings

CONCLUSION

⇒ The immersive nature of VR leads to more positive emotions and arousal on both subjective and objective levels
⇒ Nonsocial contents seem particularly efficient on a physiological level = Natures’ well-known benefits for relaxing and restoring resources (5)
⇒ Social contents seem to be more efficient on a subjective level for inducing positive emotions
⇒ Potential applications: foster well-being through VR and positive emotions induction for more vulnerable and/or isolated users (e.g., elderly users)

REFERENCES