

# 360° nature video for relaxation: does the medium matter?

**Immersive Mental Health project**

**Sylvie Bernaerts, Glen Debard, Marlon Van Loo, Bert Bonroy, Tom Van Daele**  
**13 July 2023, CyPsy26**

With support from

**VLAIO**



**Flanders**  
State of the Art



**Funded by**  
**the European Union**  
NextGenerationEU



# Background

Positive effects on relaxation

*Riches et al. (2021, 2022, 2023)*

- the general population
- clinical population
- promotes workplace well-being

Nature content

Standalone or tethered VR headsets



# Background

Limited adoption in clinical practice

Expensive

Smartphone VR

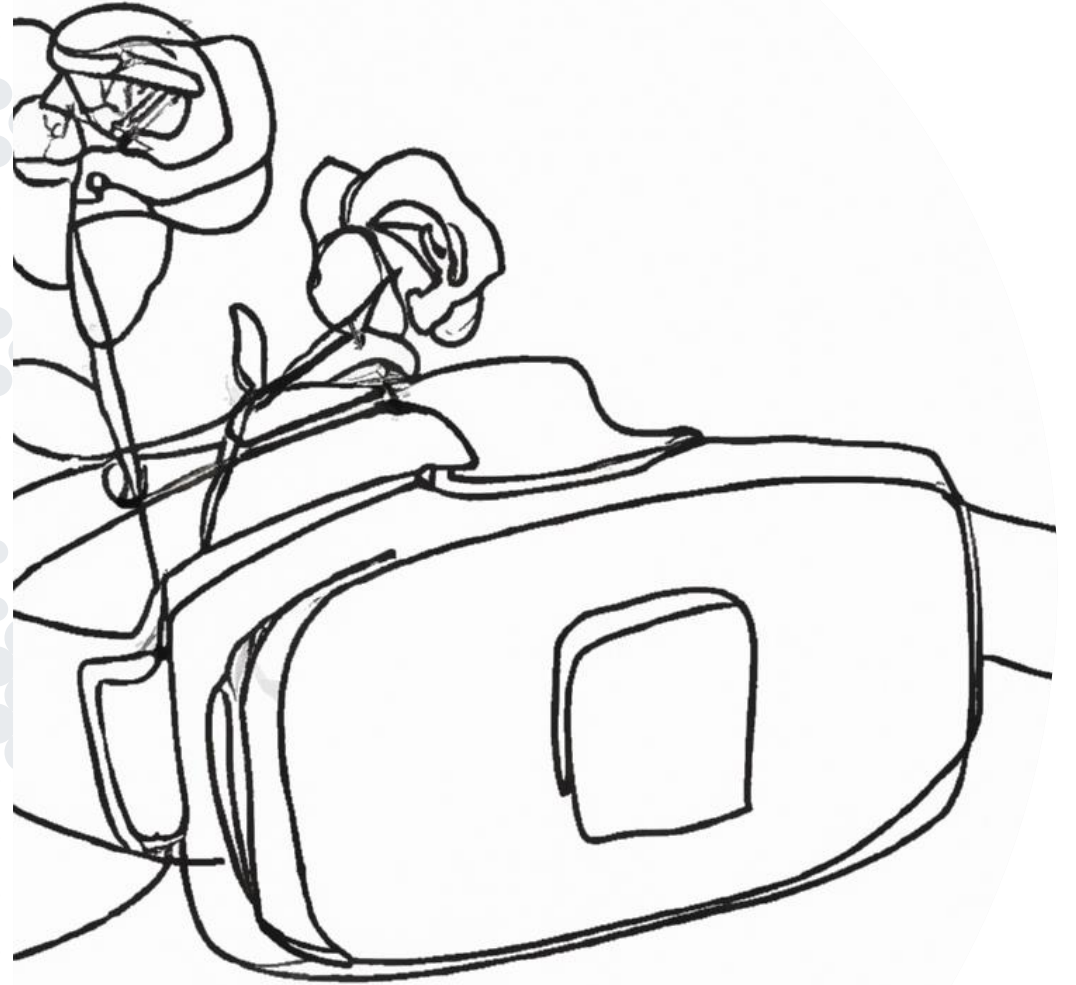




# Research questions

Experiment 1: Which smartphone VR headset works best?

Experiment 2: Is there a difference in efficacy between presentation media?



# Intervention: 360° nature video

Approx. 6 minutes

5x 1-minute nature scenery  
(+ instructions)

Belgian Park

Bird sounds, slight breeze  
through leaves



# Exp 1: Study design



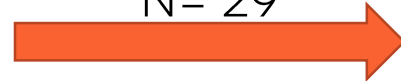
N = 87 first-year applied psychology students + general public (70F / 14M / 2NB; Age M= 20.62, SD= 5.67)

Baseline



POMS – tension scale  
VAS - relaxation

Bobo Z6 VR  
N= 29



Shinecon GO2ED  
N= 30



Shinecon SC-GO6E  
N= 29



Post

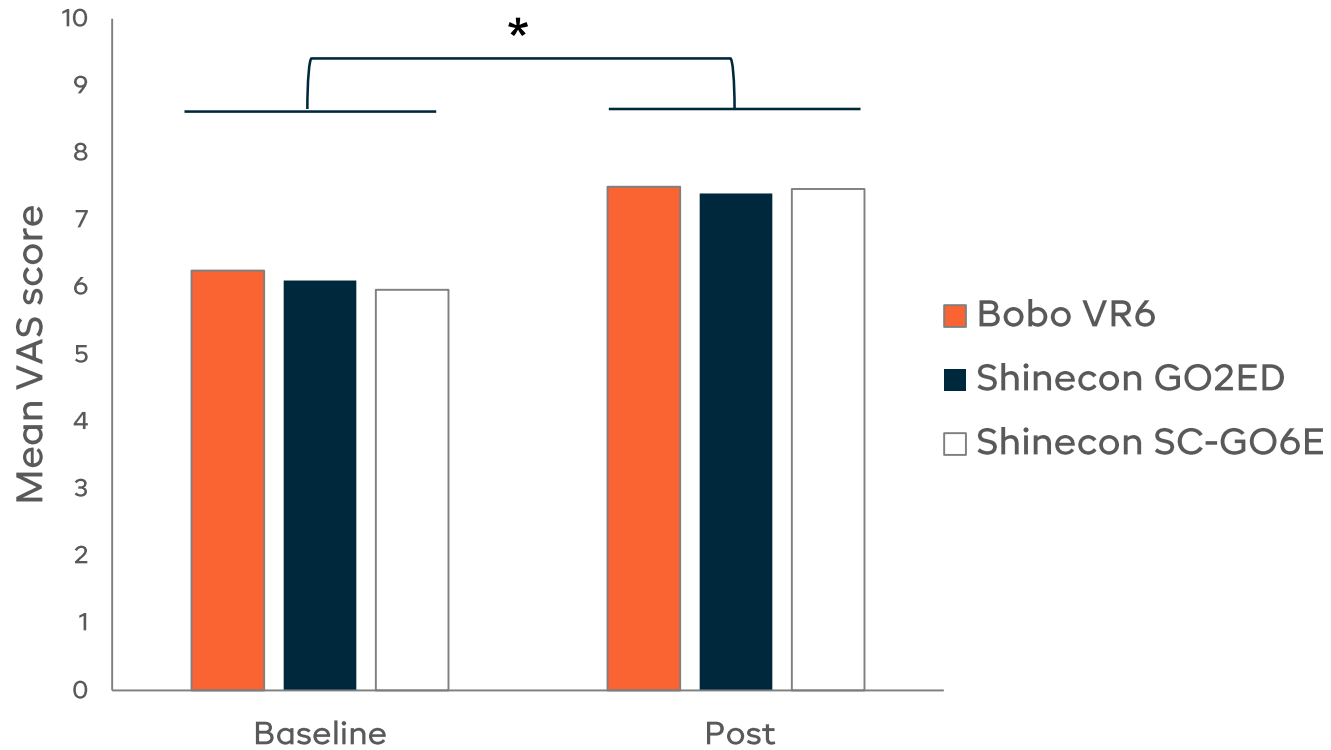


POMS – tension scale  
VAS – relaxation  
UEQ – user experience



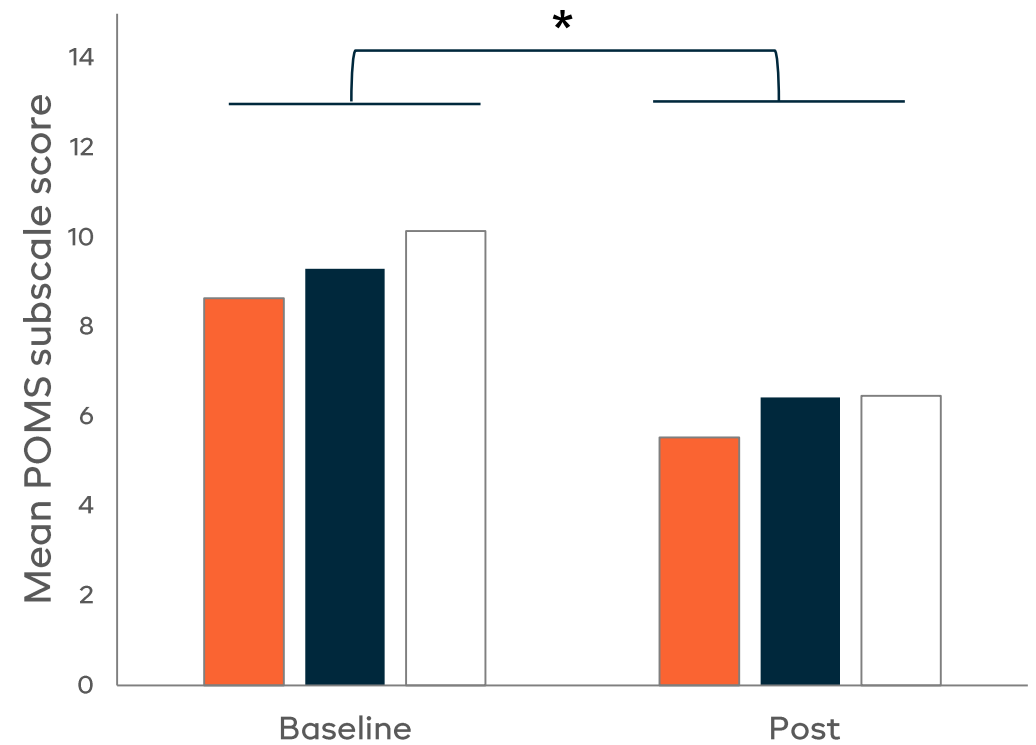
# Exp 1 - Results

## VAS - Relaxation



$F(1,83)=71.19, p<.001$

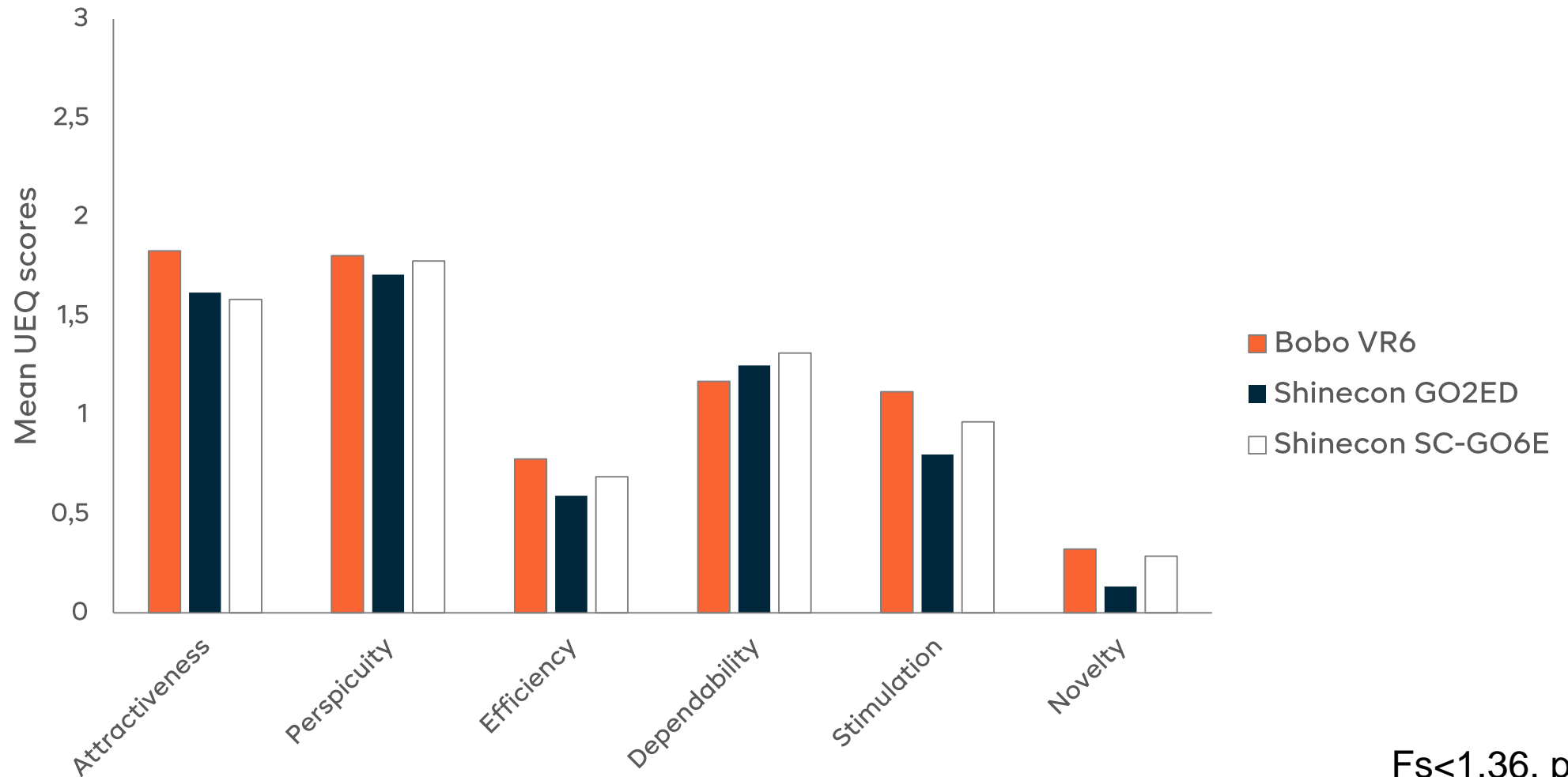
## POMS - Tension



$F(1,84)=121.33, p<.001$

# Exp 1 - Results

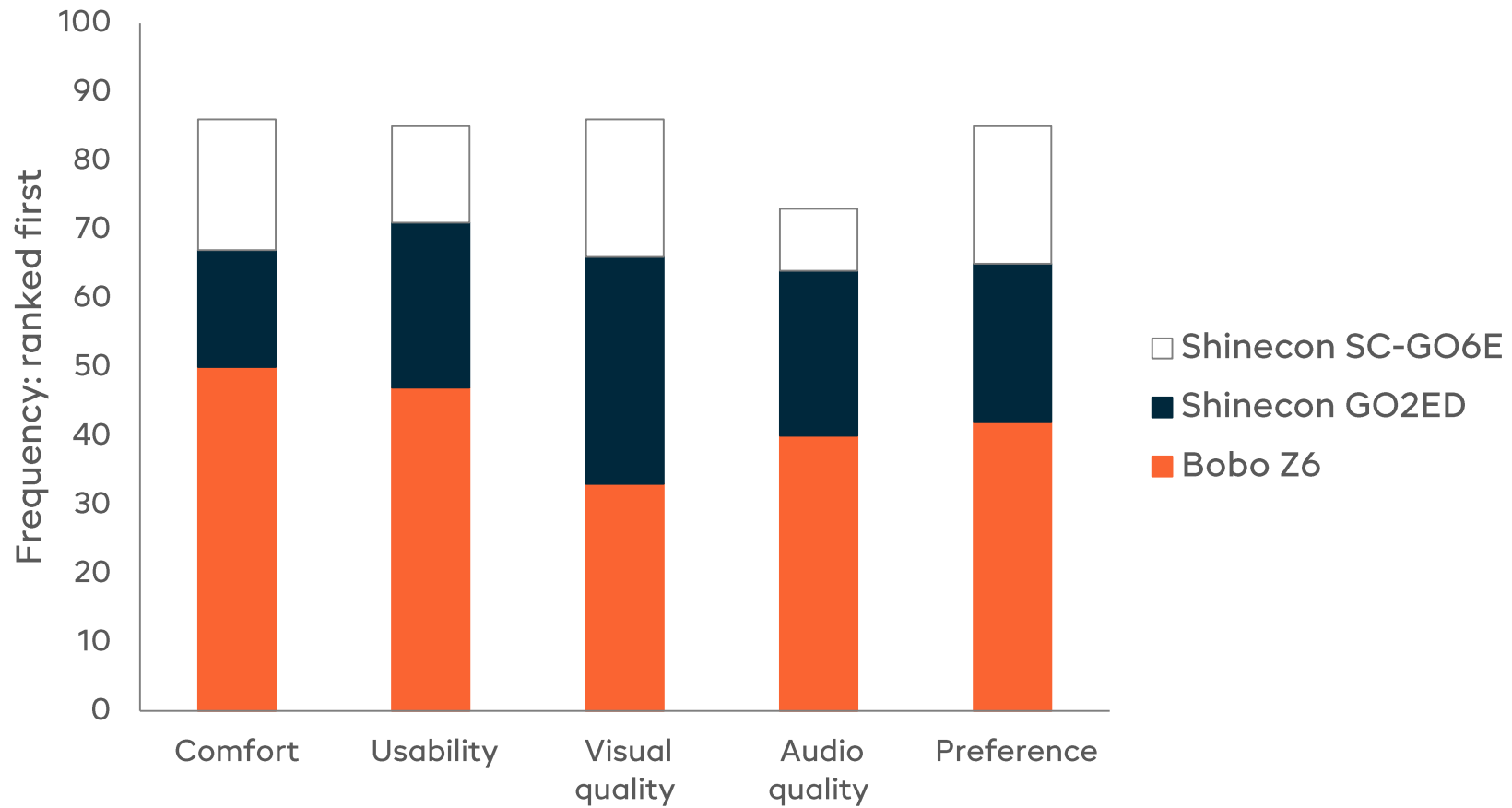
## User Experience



Fs<1.36, ps>.26



# Exp 1 - Results



# Exp 2: Study design



N = 61 first year applied psychology students (52F / 7M / 2 NB; Mean age = 18.75, SD= 1.77)

## Baseline



POMS – tension scale  
VAS – relaxation

Bobo Z6 VR  
N= 22



Meta Quest 2  
N= 19



Laptop  
N= 20



## Post

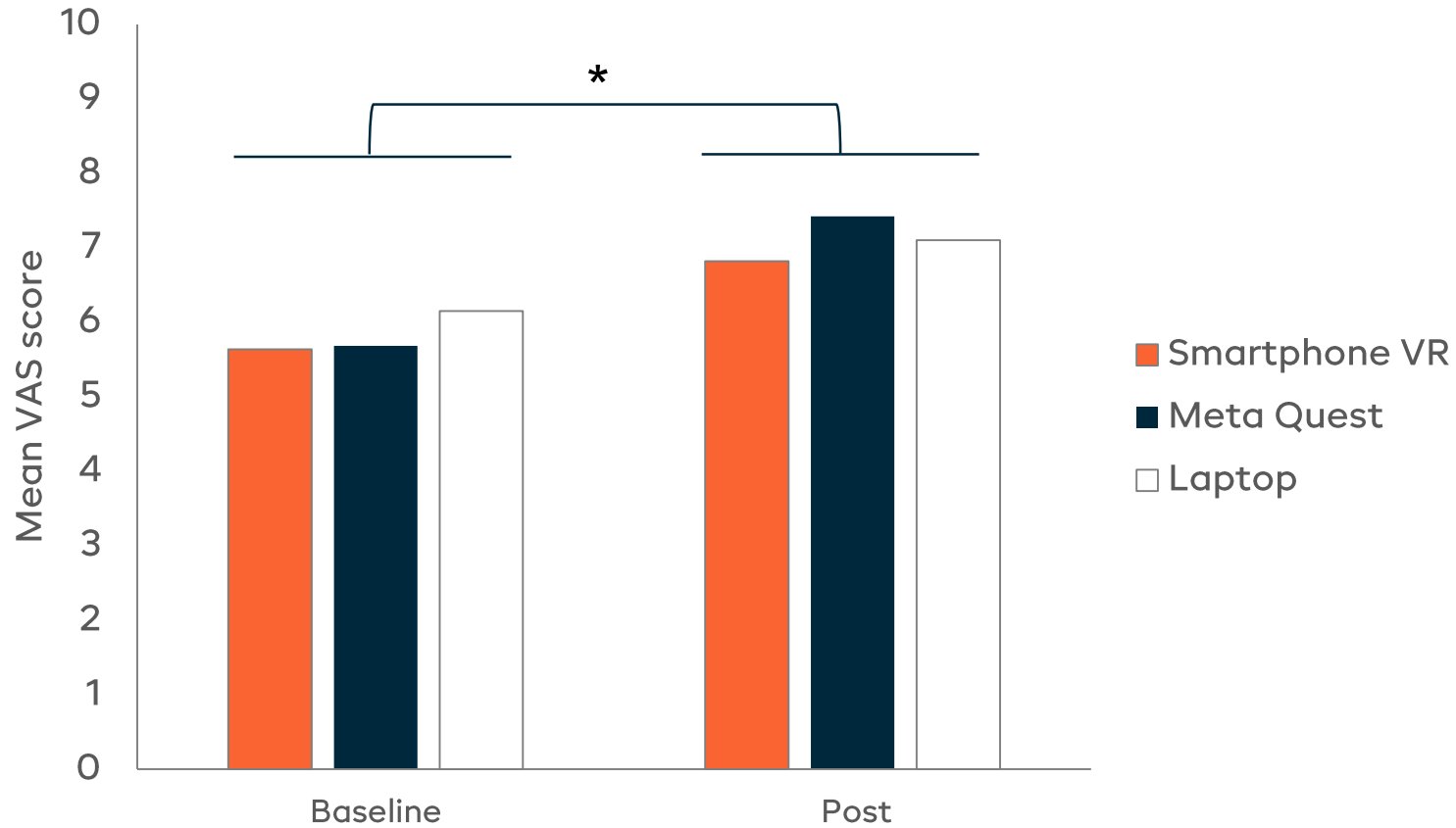


POMS – tension scale  
VAS – relaxation  
UEQ – user experience  
IPQ – sense of presence

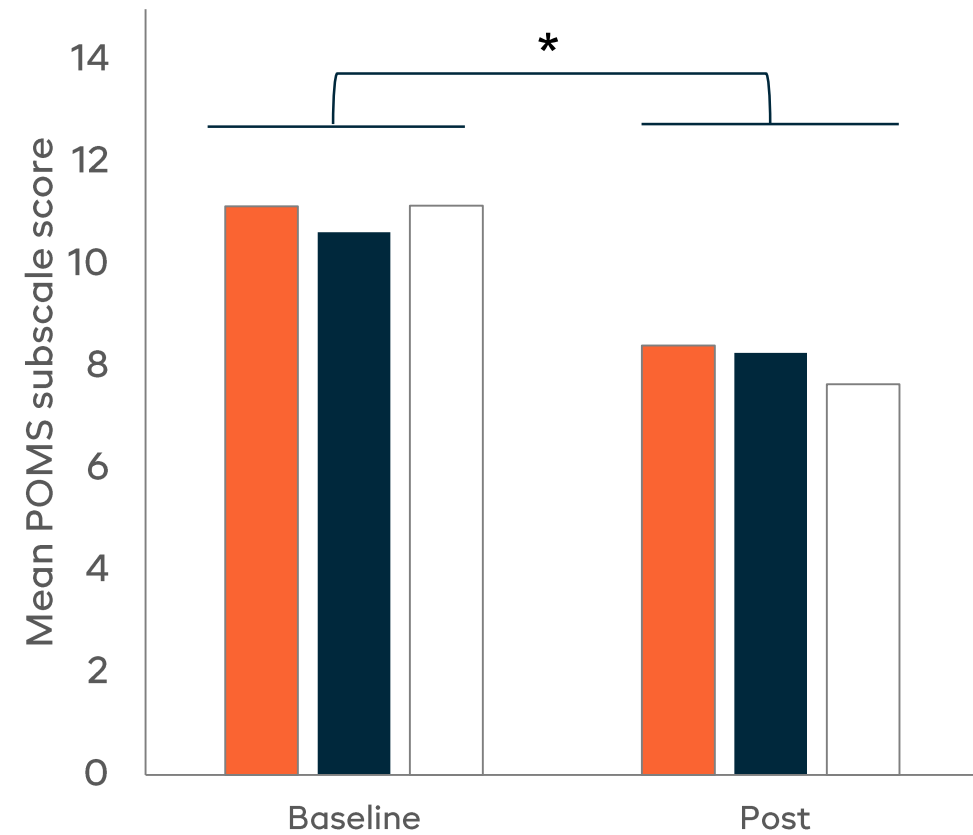


# Exp 2 - Results

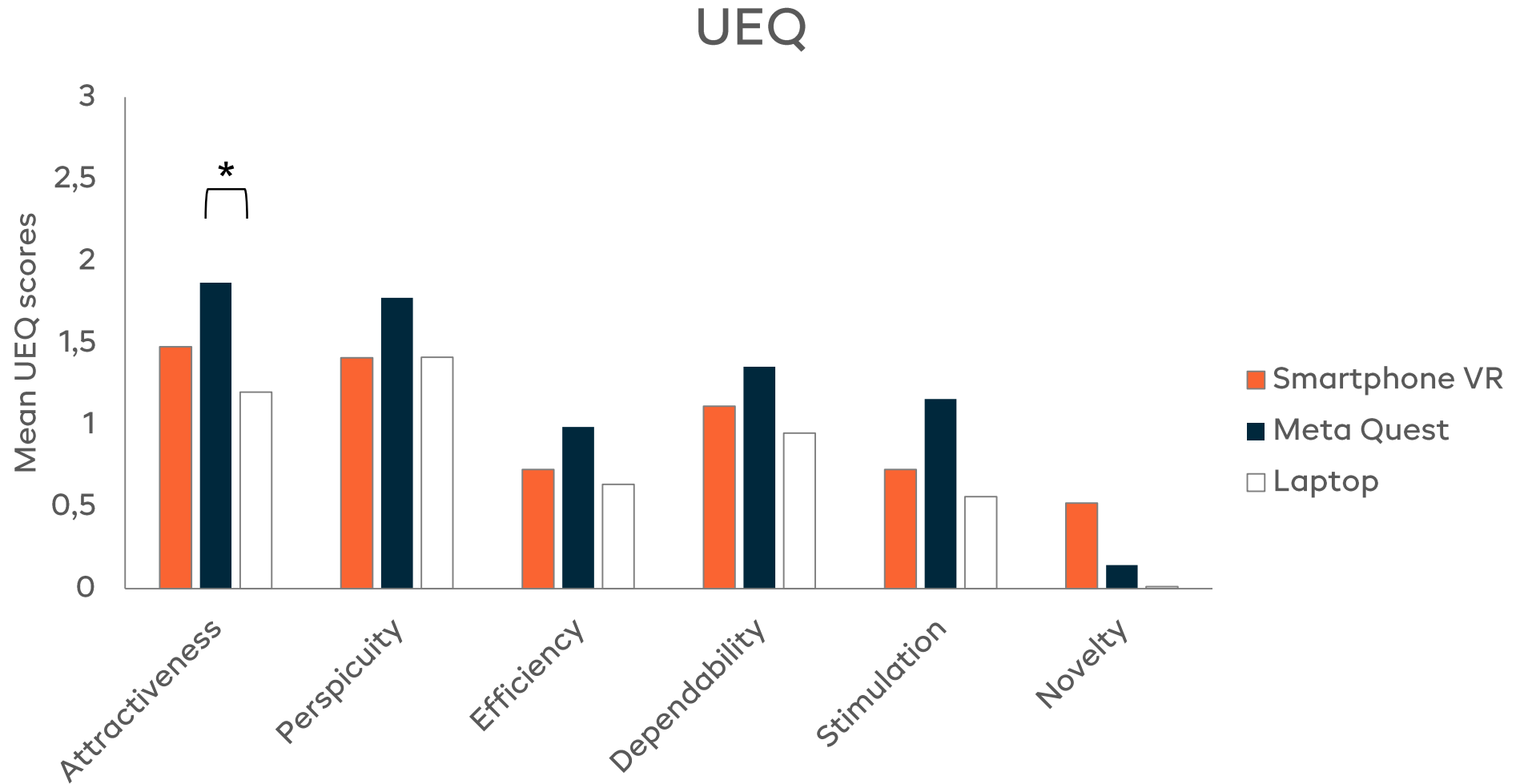
## VAS - Relaxation



## POMS - Tension

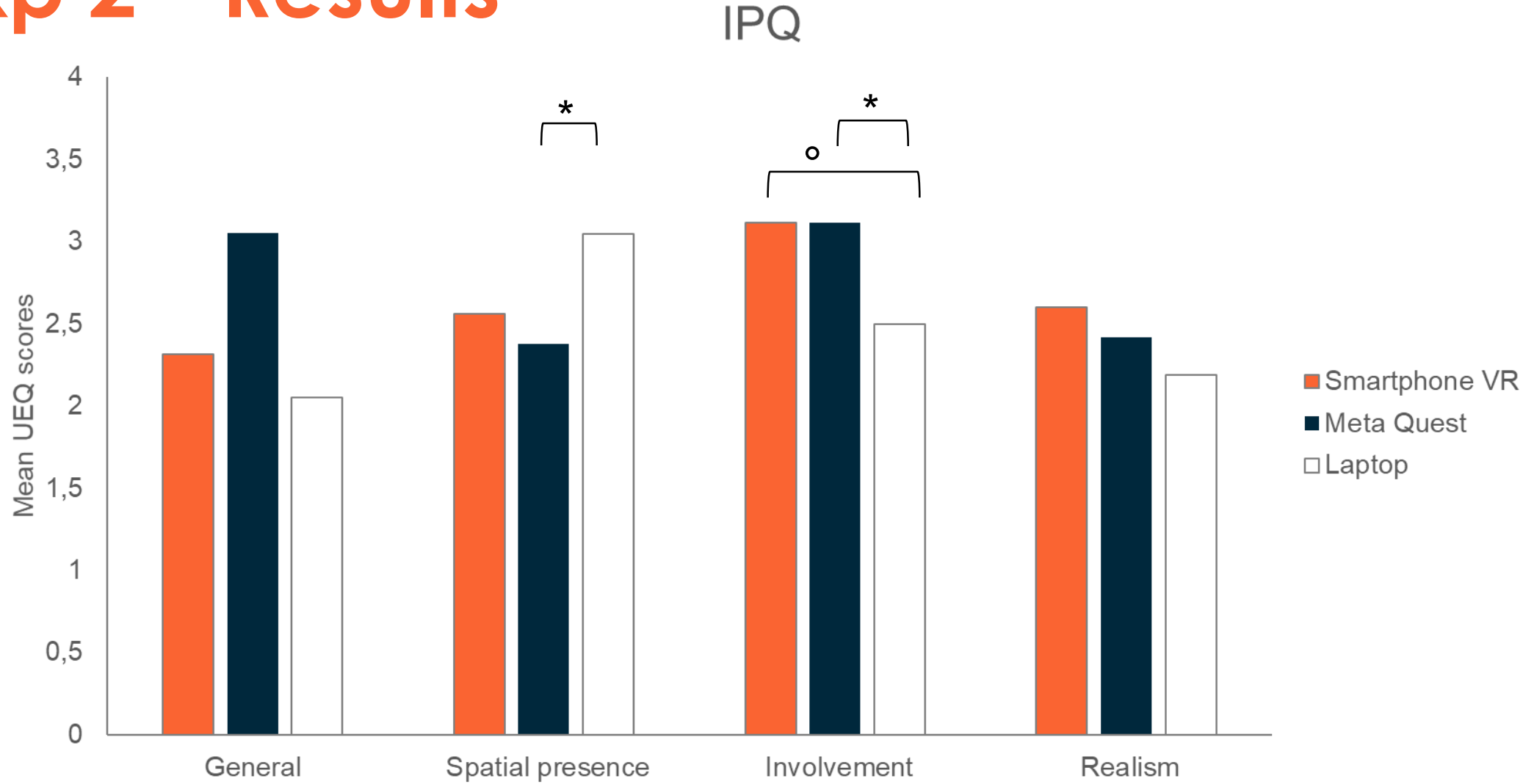


# Exp 2 - Results



$F(2,60)=3.78, p=.03$   
 $t(58)= 2.74, p=.008$

# Exp 2 - Results



$F(2,60)=4.00, p=.02$   
 $*t(58)=-3.50, p=.001$

$F(2,60)=6.64, p=.003$   
 $*t(58)=3.12, p=.003$   
 $^{\circ}t(58)=3.21, p=.002$



# Conclusion

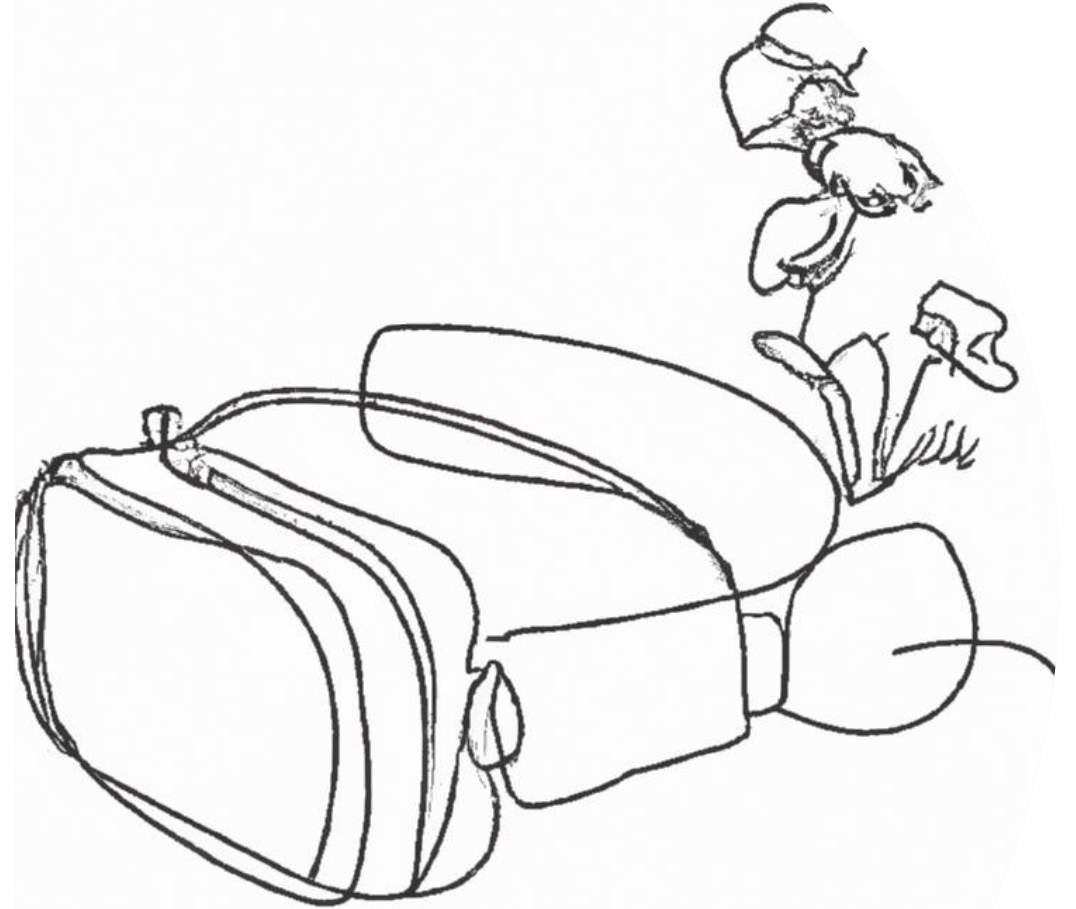
Low-cost smartphone VR headset can be as effective as a high-end VR headset to present a 360° nature video for relaxation

Smartphone VR headsets might be a feasible alternative for healthcare organizations that can't afford high-end VR headsets



# However...

- No control group
- No physiological data
- Visual quality needs to improve





360° nature video for relaxation: does the medium matter?  
Low-cost smartphone VR headsets show potential for relaxation purposes.



[Sylvie.bernaerts@thomasmore.be](mailto:Sylvie.bernaerts@thomasmore.be)  
[Cypsy26.digitalmentalhealth.be](http://Cypsy26.digitalmentalhealth.be)

With support from



**Flanders**  
State of the Art



**Funded by**  
**the European Union**  
NextGenerationEU

