REACTIONS TO IMMERSIVE VIRTUAL REALITY EXPERIENCES ACROSS GENERATIONS X, Y, AND Z

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ZBIGNIEW BOHDANOWICZ

I am an economist and a psychologist, I work at the Institute of Interactive Technologies at OPI PIB. At OPI PIB, I study what is happening at the junction of modern technologies and people. I study how people perceive virtual reality and the potential of this technology, but also the threats. I also work on a project related to the creation of innovative technologies to facilitate the energy transformation towards lower greenhouse gas emissions. In this project I assess how new technological solutions affect people's lives and how people perceive them.

I am also involved in climate education at the University of Warsaw and I am co-author of an academic textbook on climate change. I strive to disseminate scientifically proven knowledge about the state of the environment, the climate and the resulting prospects for the future.
WHY DID WE STUDY THE IMMERSIVE VIRTUAL REALITY?

- level of technology vs. awareness of it
- IVR development potential
- barely known area
THE METHODOLOGY

- Qualitative interviews, about 60 minutes

- 18 adults, aged:
  - 20-25 years (generation Z)
  - 35-40 years old (generation Y)
  - 50-55 years (generation X)

- 8 children aged 7-12 years

- HTC Vive Pro

- July 2019
## CONTACT WITH TECHNOLOGY AT DIFFERENT STAGES OF LIFE

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<td><strong>TV</strong></td>
<td>YES</td>
<td>YES</td>
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<td>since 1950-60 in USA, since 1960-70 in Poland</td>
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<td><strong>Personal computer</strong></td>
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<td><strong>Internet</strong></td>
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<td>(1995 - commercial use of the Internet in the USA)</td>
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SOFTWARE

- 360° video
- Dreams of Dali
- Apartment
- Walk the Plank
- Droid Repair Bay
- Google Earth
- The VR Museum of Fine Art
WALK THE PLANK
VR MUSEUM

Anavyso
Kouros

Unknown, c. 590-580 BCE, marble
Metropolitan Museum of Art

The statue depicts a young man, possibly of the priestly class. The statue's stance is elegant, with the arms resting on the hips and the legs crossed.

The Greeks learned to quarry and cut stone with great skill. The Kouros of this period are characterized by a strong, almost classical, style.

The Kouros statue was used as a burial artifact in ancient Greece. It is believed to have been commissioned by a wealthy individual as a memorial to a deceased family member.

In ancient Greece, sculptures were often used as grave markers. The Kouros statue is a fine example of early Greek sculpture, showcasing the naturalistic style that would later become the hallmark of Greek art.
WHAT HAVE WE LEARNT?
MOVEMENT

- Cybersickness
- Walking
- Teleportation with an indicator
- Teleportation - gaze pointer
- Cursors on the controller 'I had the impression that I was being pushed, as if in such a way ... quite brutal' (K, 40)
ADAPTATION

The young win:

- Intensive exploration
- They are not afraid to make mistakes
- They learn to control very quickly
- They do not need guidance
- They adapt to cursor movement ('sliding')
PERFORMANCE OF TASKS

- The younger, the better!
SATISFACTION

- Adults
  - Gap between expectations and experience
  - Surprisingly easy interface
- Children
  - they love the digital world
GENERATIONS

- **Adults**
  - Breaking the limits of reality (money, distances, disability)
  - Travel and entertainment
  - Worse substitute for reality

- **Children**
  - Interactivity, exploration
  - A world without adults
  - Experience counts, no matter where
**PRESENCE**

- **Immersion**
  
  It was incredibly well developed and so... I think somebody focused on making sure that the person who wears glasses really feels transferred to another world. Because I felt transferred to another world. Actually, everything was there, because I had the impression that the wind on my face was there. I do not know why. But it was probably such a strong transfer into that other reality. (K, 51)

- **Presence**
  
  I said... I was going through this, but I just knew that there was a floor here, that nothing would happen to me. But my brain was going crazy at the moment, really. My brain was crazy. It didn't know what was happening (M.37).

You have the impression that you are genuinely involved in it (...) you are there and that is fantastic. (M, 24)
- High technical quality of the simulation
- No delay in response
- Easy control
- Cheating' as many senses as possible

- External voices
- Technical shortcomings
- No body
- Weight of goggles, cable
- Limitations on the physical size of the room
- No other people (!)
I was very emotional about this. Even now, I have tears in my eyes, because when I saw this sea, I immediately... I would like to go back on holiday. It was so... gee, it was so... it was so... on me, it affected me so emotionally. (...) But it's... I'll tell you that such incredible emotions. It was the first time I wore something like that. To be honest, it was good for me there. It was nice. (K,50).
CONCLUSIONS

- Teleportation is the most convenient way to travel in VR
- Applications for the young can be demanding and complex. For older adults - better not
- A simple interface is a huge magnet for mature people
- For greater immersion in VR should:
  - Remove as many 'anchors' as possible that are actually holding
  - Stimulate as many senses as possible
  - Give opportunities for social interaction
- VR is experienced, not interpreted
I'VE NEVER MET A SKEPTIC OF VR WHO HAS TRIED IT.
THANK YOU