VIBE PROJECT

Virtual Biomedical and STEM/STEAM Education

2021-1-HU01-KA220-HED-000032251

Funded by the European Union

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DEX innovation centre

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Dark side of VR

Disadvantages

Made by Kinga David

Advantages of VR in surgical education

- Standardization
- Reproducibility
- Cooperative technology – multiple users
- Immersive learning experience
- Wide variety of displays

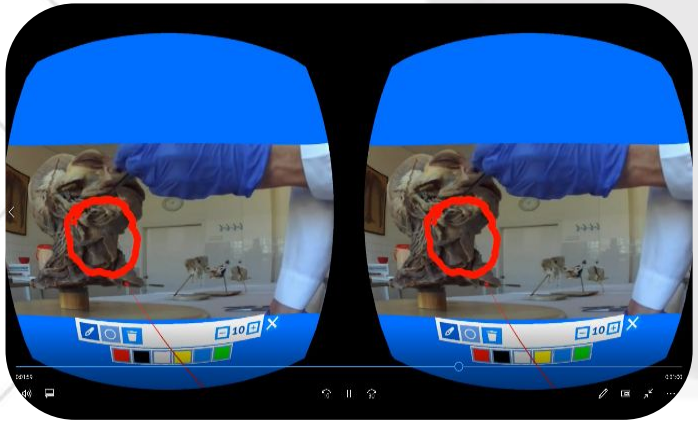
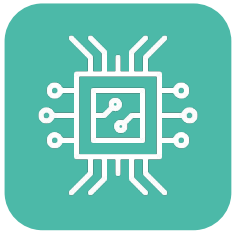


Image from University of Pecs, Medical School

"Anything" can be simulated: anatomical or pathological models, procedures, situations, environments in hospitals and wards

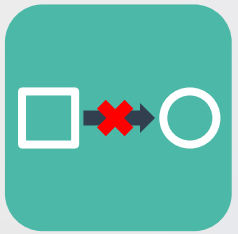
What aspects of VR/AR are challenging? – *Interview-based study*



Hardware limitations

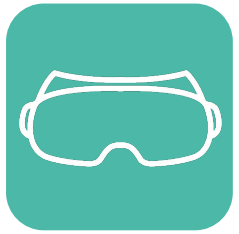
VR sickness

User adoption and learning curve



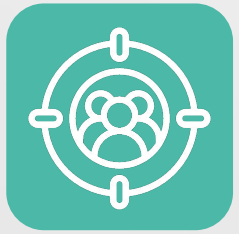
Resistance to change

What aspects of VR/AR are challenging? – *Interview-based study*



Finding a clear purpose for the use of VR/AR

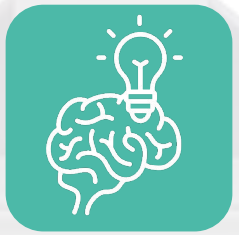
Optimization



Target audience

Digital competence: low digital literacy

Digital competence



Knowledge

Skill

Attitude

Main areas of digital competence

Information

Safety

Communication

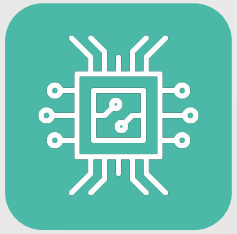
Production

Disadvantages of VR in surgical education

Expensive

Development requires time and resources

Lack of technological knowledge



Limits of hardware (VR goggles, computers)

VR sickness

VR motion sickness

Visual-Vestibular Mismatch

Low Frame Rates or Latency

Field of View (FOV)

Head and Body Movements

Poor Graphics or Performance

Sensory Disorientation

Disadvantages of using VR in education

- Reluctance to use
- Physically or emotionally demanding
- Not good enough
- Confusing VR with reality
- Interaction with real humans

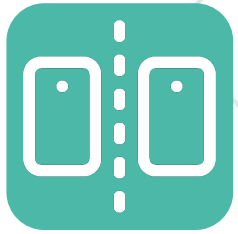
Pantelidis, 2010

Pay attantion when teaching with it

Ethical concerns

Security concerns

Lack of teacher training



Digital divide

Source: Youtube (SoraNews24)

Survey research – *attitude towards VR/AR*

Data

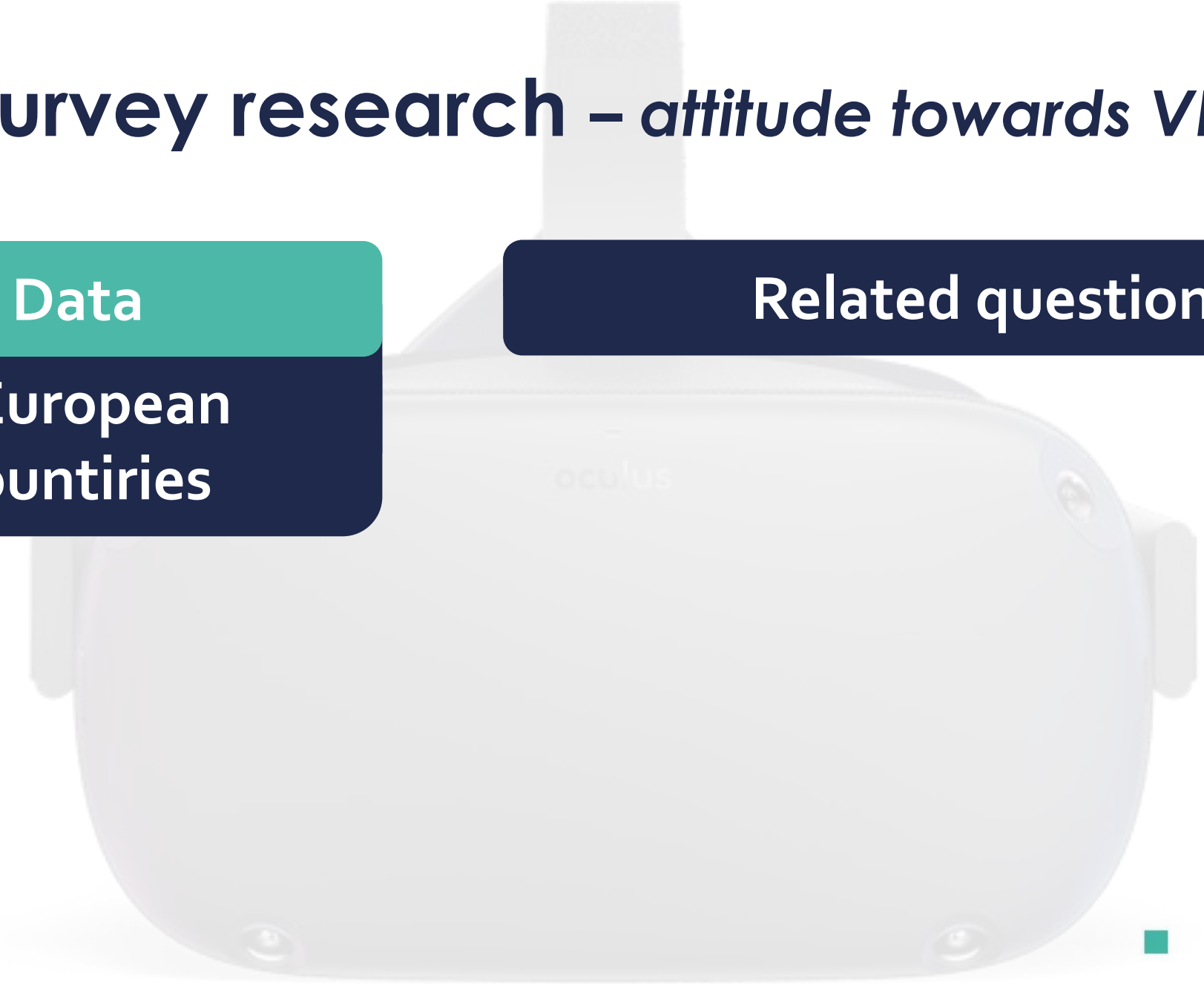
Related questions

Survey research – *attitude towards VR/AR*

Data

4 European countiries

Related questions



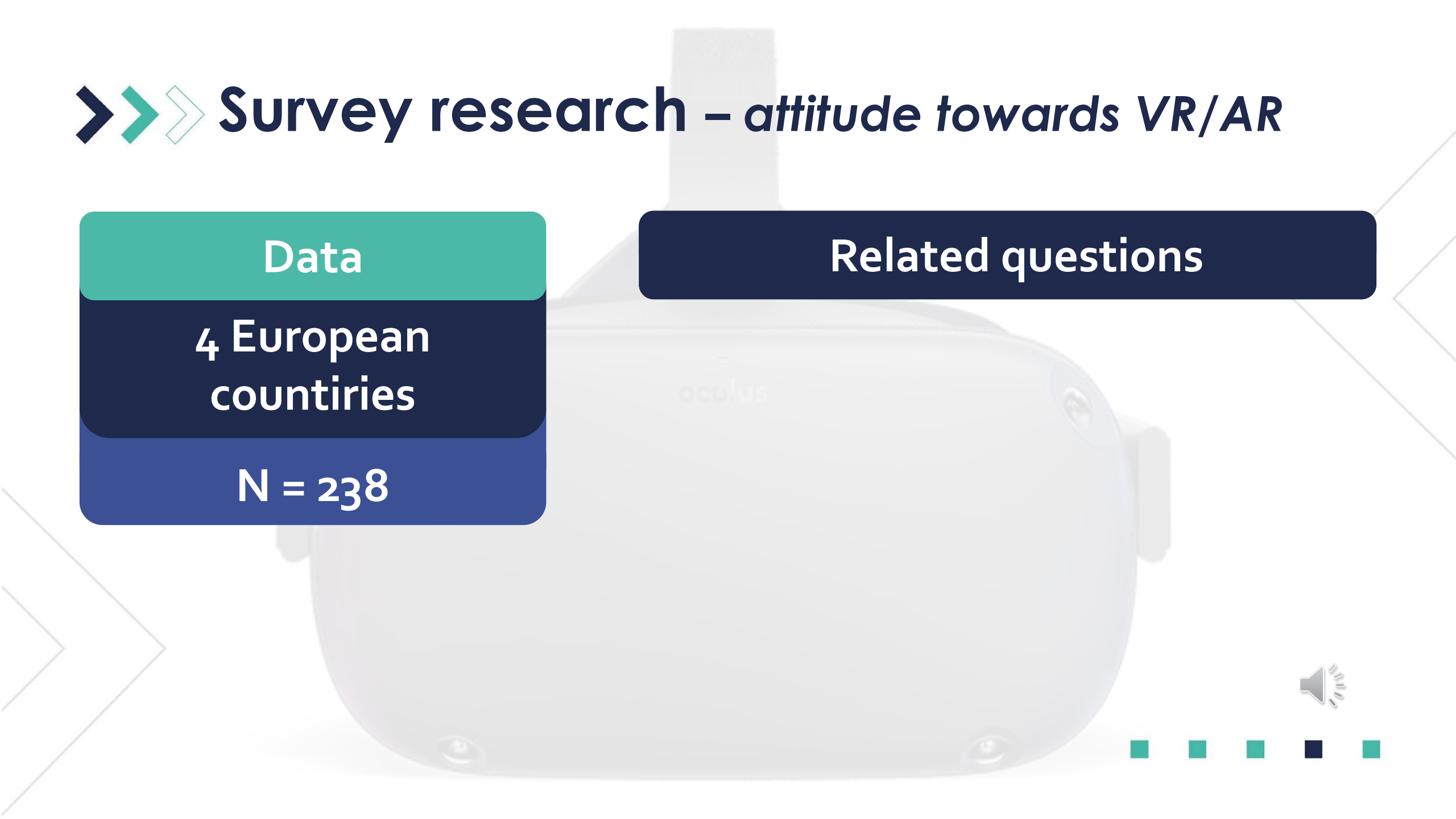
Survey research – *attitude towards VR/AR*

Data

4 European countiries

N = 238

Related questions



Survey research – *attitude towards VR/AR*

Data
4 European countiries
N = 238
Age: 18-70

Related questions

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Related questions
To what degree do you agree with the use of VR in education?

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To what degree do you agree with the use of VR in education?
Which subjects would you benefit the most from

Survey research – *attitude towards VR/AR*

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Related questions
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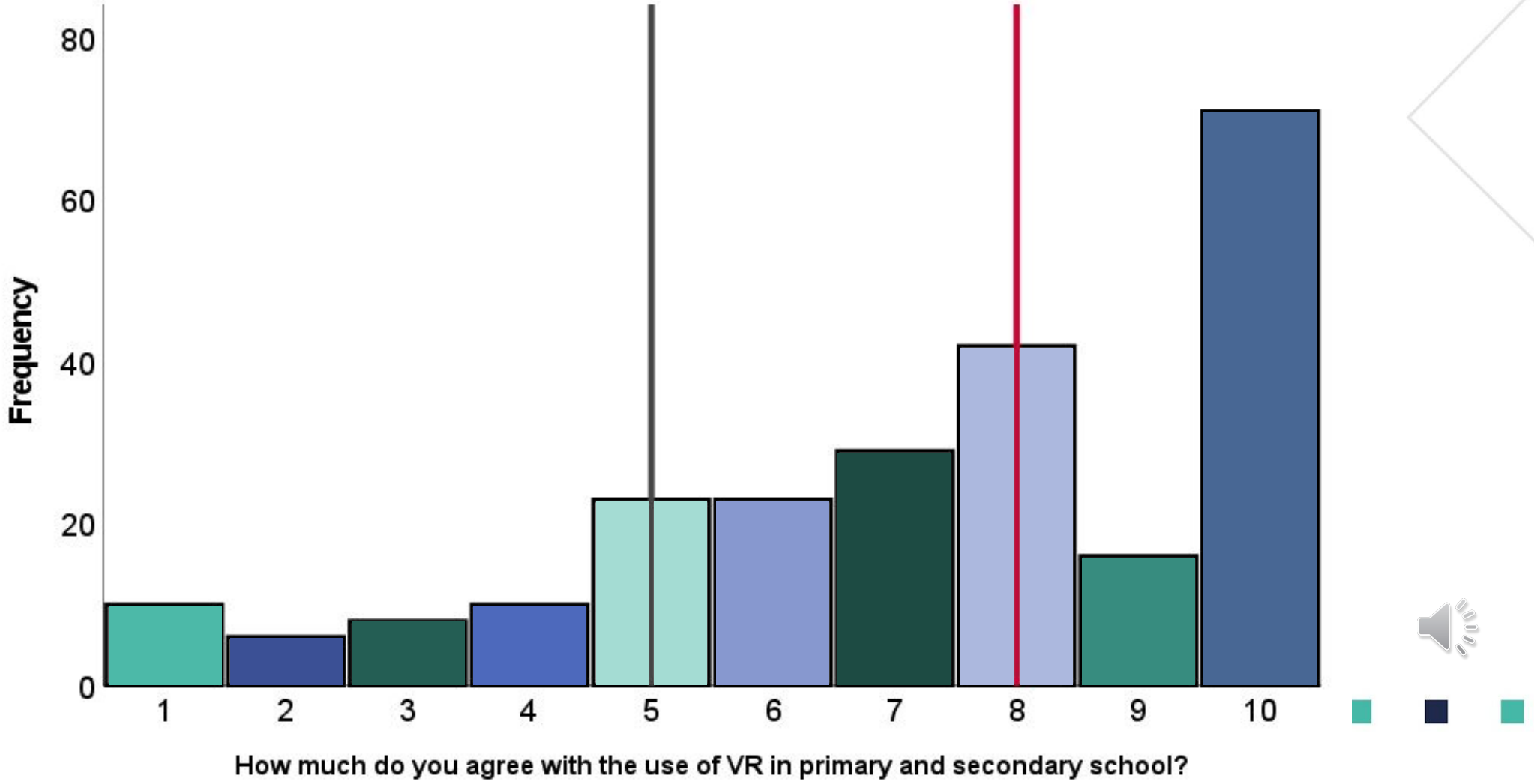
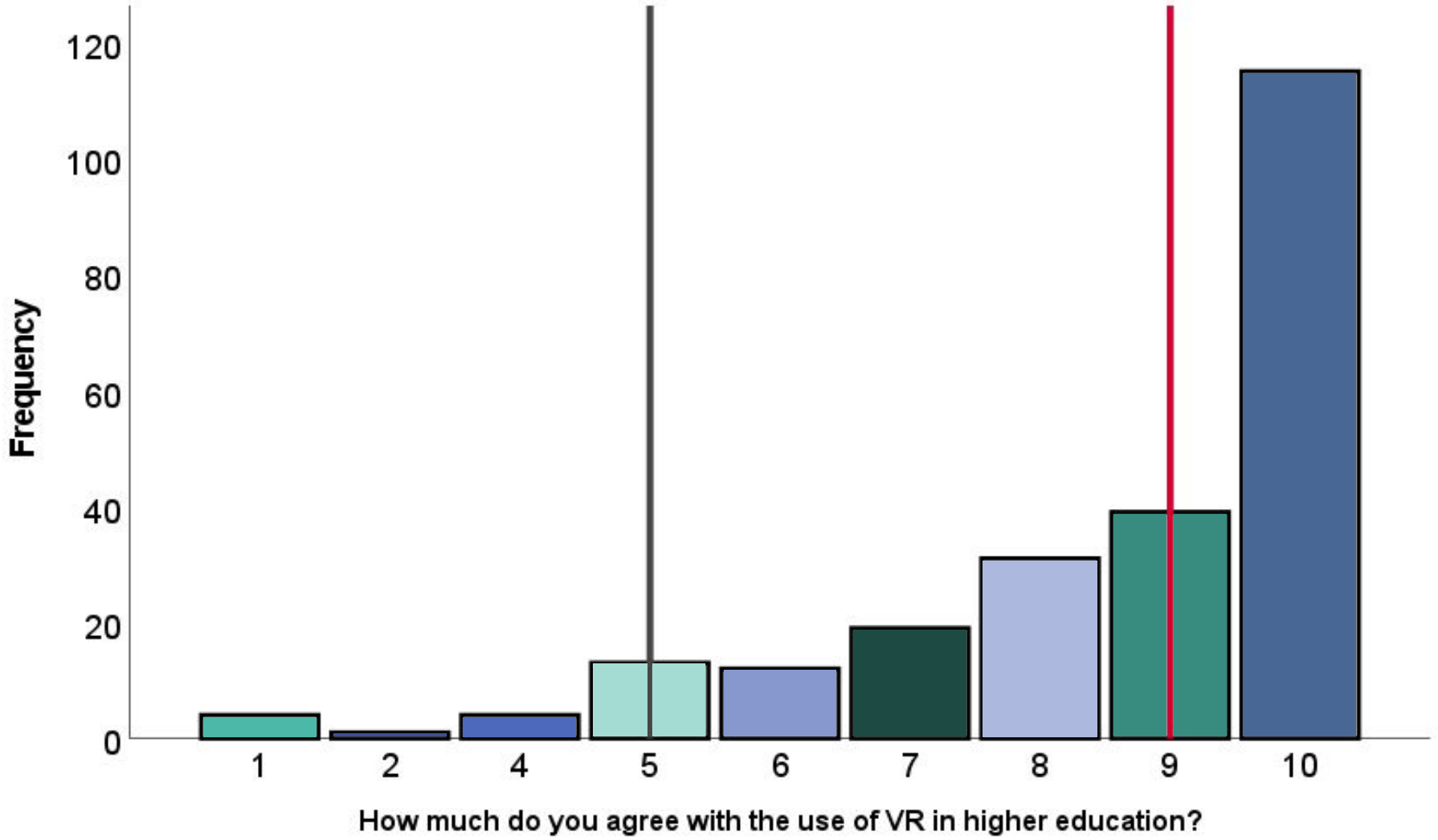
Which subjects would you benefit the most from
How much experience do you have with VR\AR?

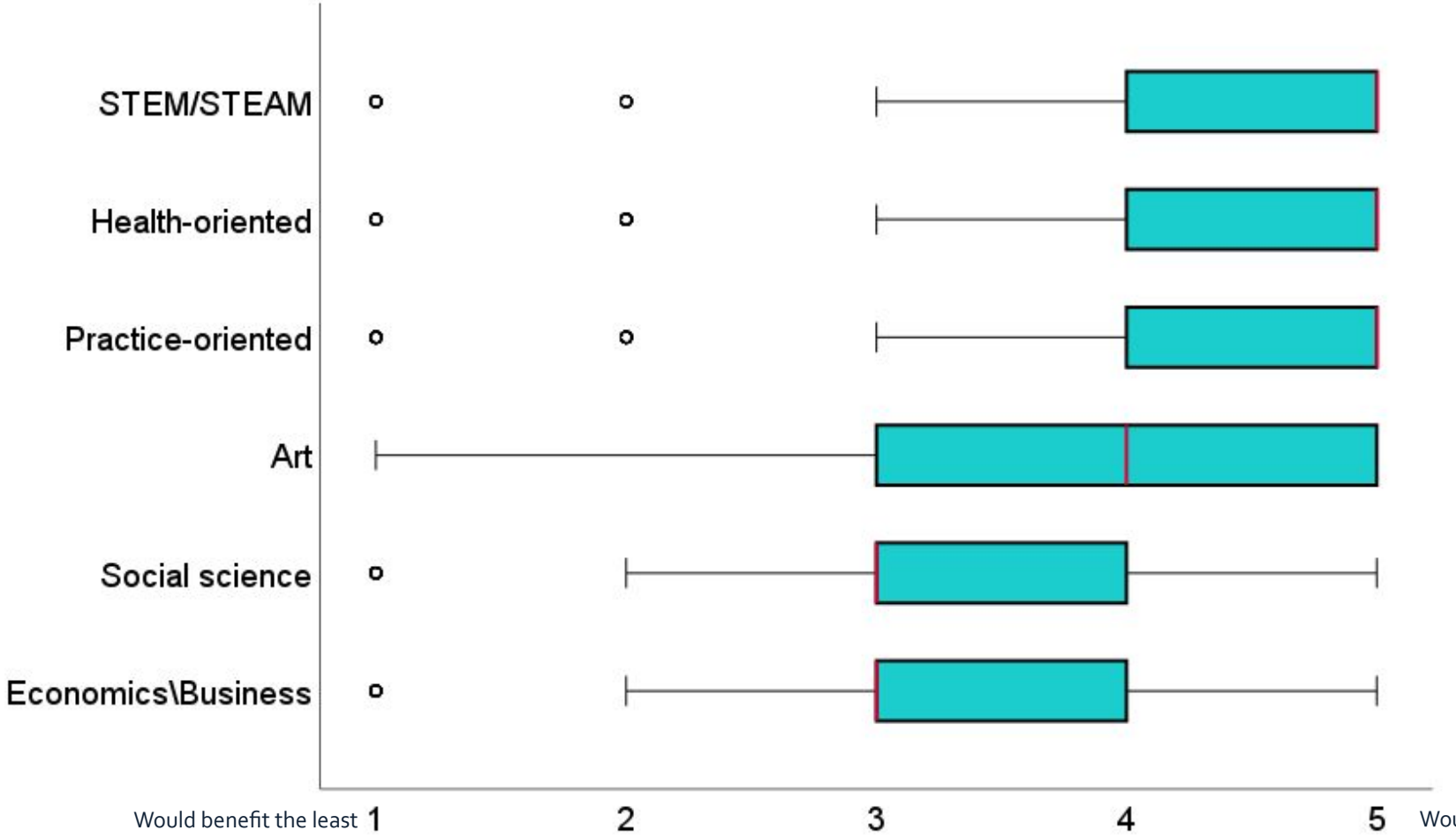
Attitude towards the use of VR in primary and secondary school



Attitude towards the use of VR in higher education



Which study subjects would benefit the most from the use of VR?



(Villena-Taranilla et al., 2022)

Summarize

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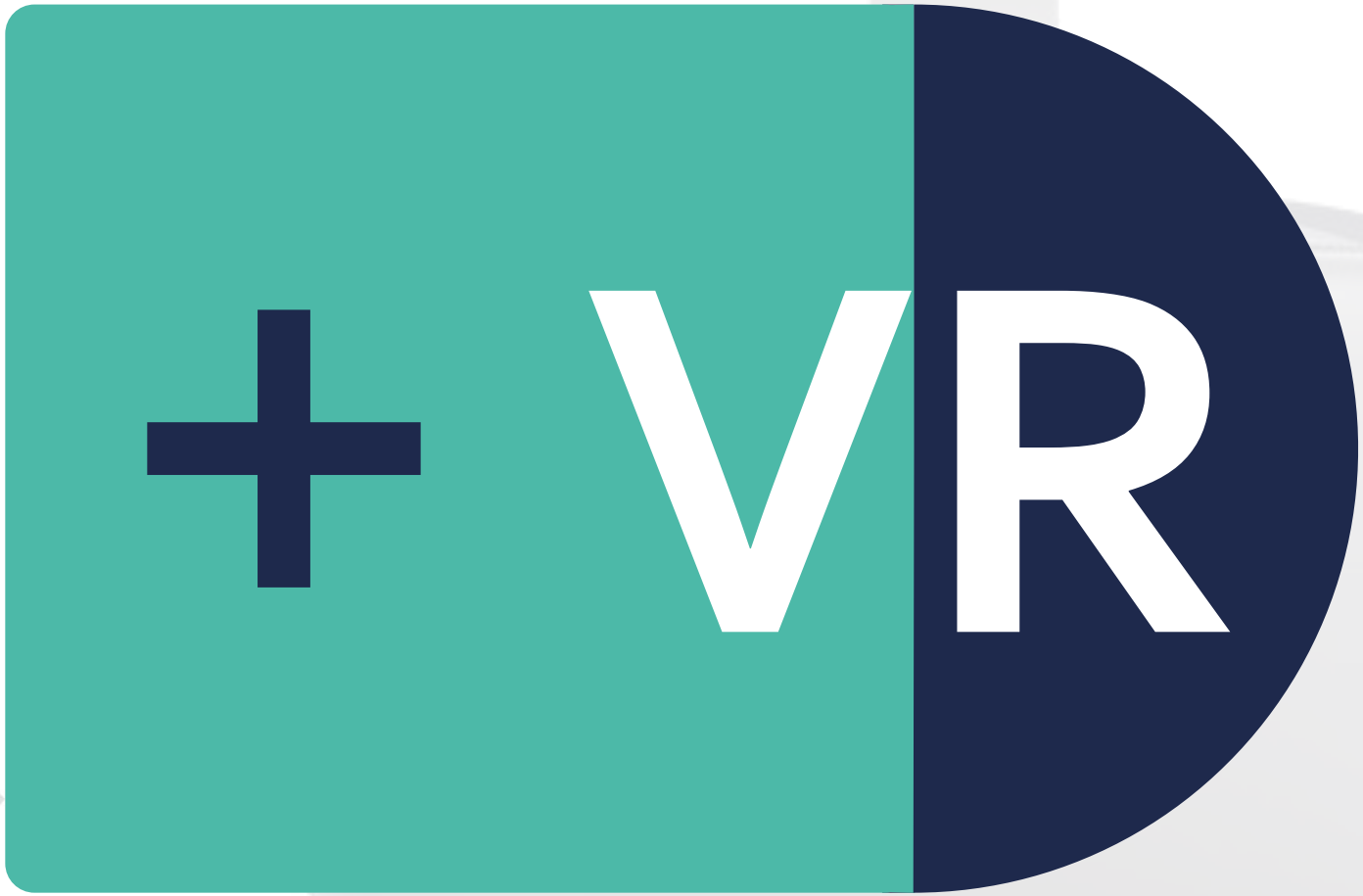

Summarize

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Thank you for your attantion!

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