



IoPPN Virtual Reality Lab

www.kcl.ac.uk/research/vrlab



MATTEO CELLA
matteo.cella@kcl.ac.uk
vrlab@kcl.ac.uk



Research in the Development of XR applications for mental health



What is research?

Why should we do research?

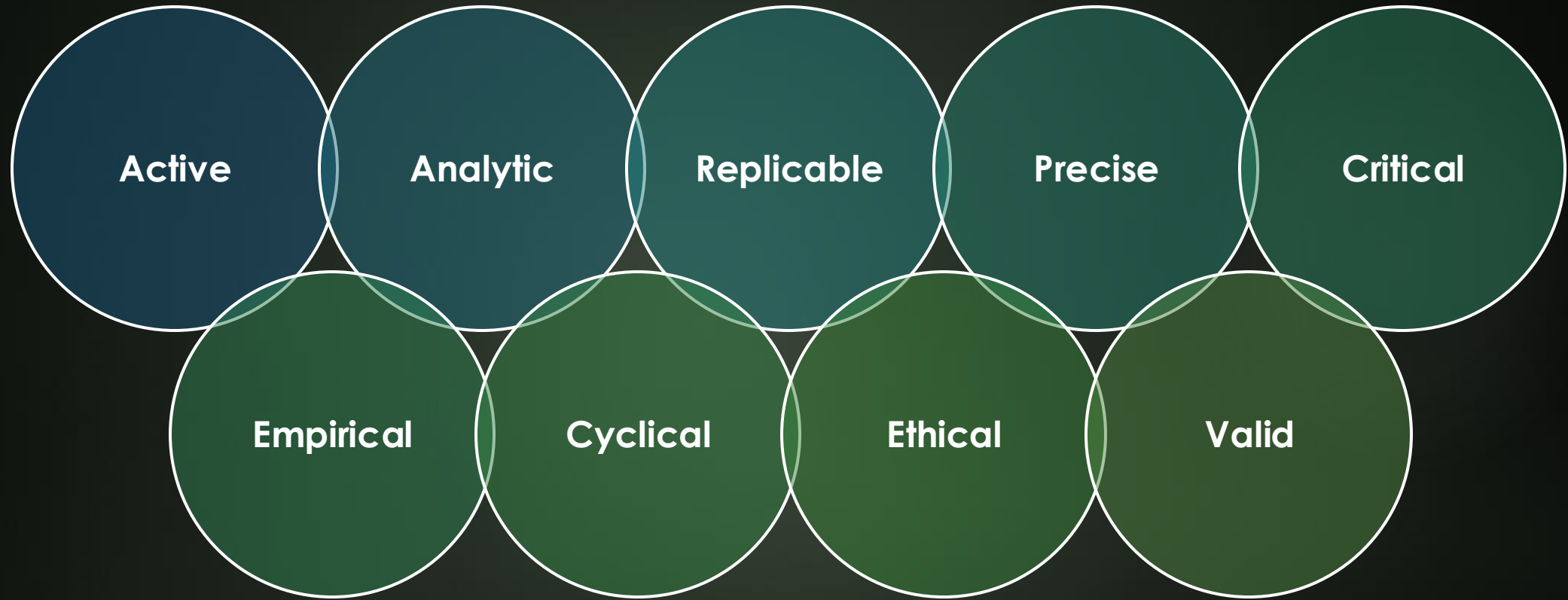
How is it done?

How to get started? When?

Collaborations, resources and tips

Moving the first steps

What is Research?



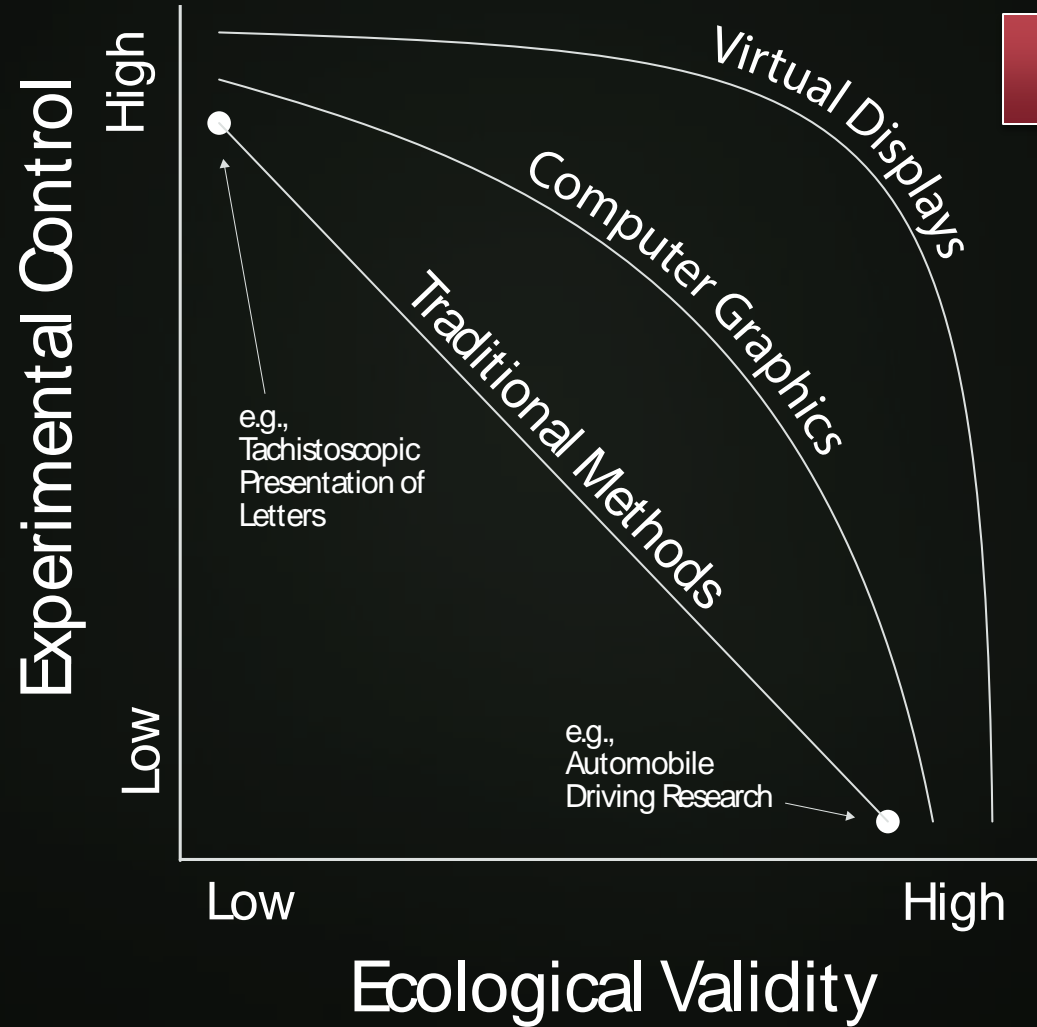
A systematic and rigorous process generating new knowledge

Why Research in Mental Health ?

- **Build knowledge** (define a condition, develop theory)
- **Develop assessments and interventions**
(consider validity, feasibility, acceptable, safety, usability)
- **Develop the evidence base** (how effective is it?)
- **Understand mechanisms** (how do treatments work?)
- **Guide implementation**
(understand barriers and facilitators to roll out and scale up)
- **Recognise and address inequalities**

Why use VR in Mental Health?

Laboratory



Virtual Reality

Real-Life Settings



How is it done?

Research Question(s)



Problem



Question



Solution

Participants
Intervention
Comparison
Outcome



Novel and relevant
Researchable
Focused & Feasible
Answerable with data

Research Question(s)

Do people with dementia find a VR scenario accessible and acceptable to engage with?

Is a VR scenario with social agents more immersive than one without?

Does exposure to a natural scene in a VR environment reduce stress in healthcare staff?

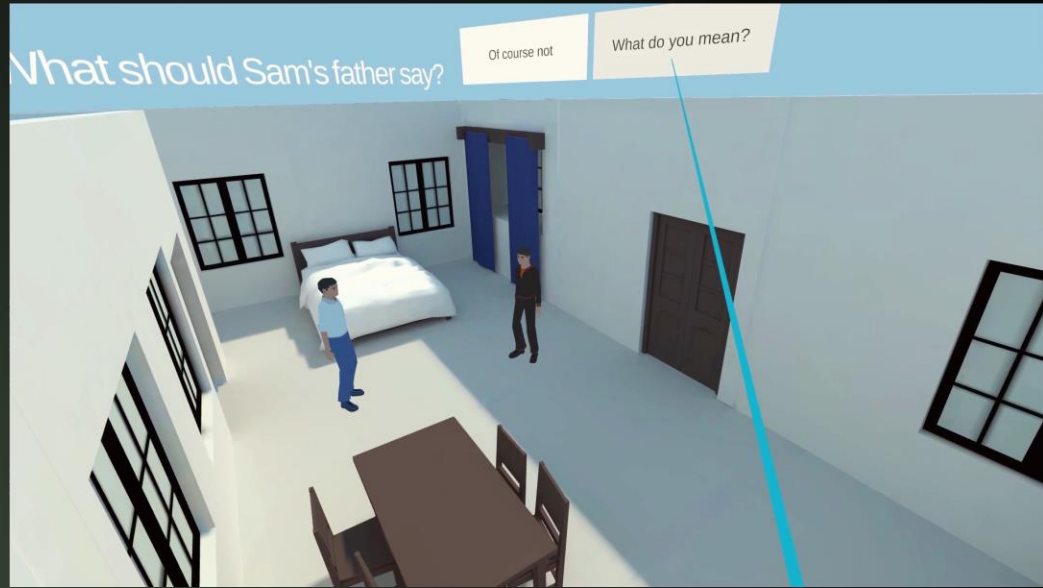
What are the barriers and facilitators to implementing a VR relaxation tool for staff into NHS inpatient settings?

Does adding VR to a relaxation exercise further reduce anxiety compared to a relaxation audio script alone?

Examples

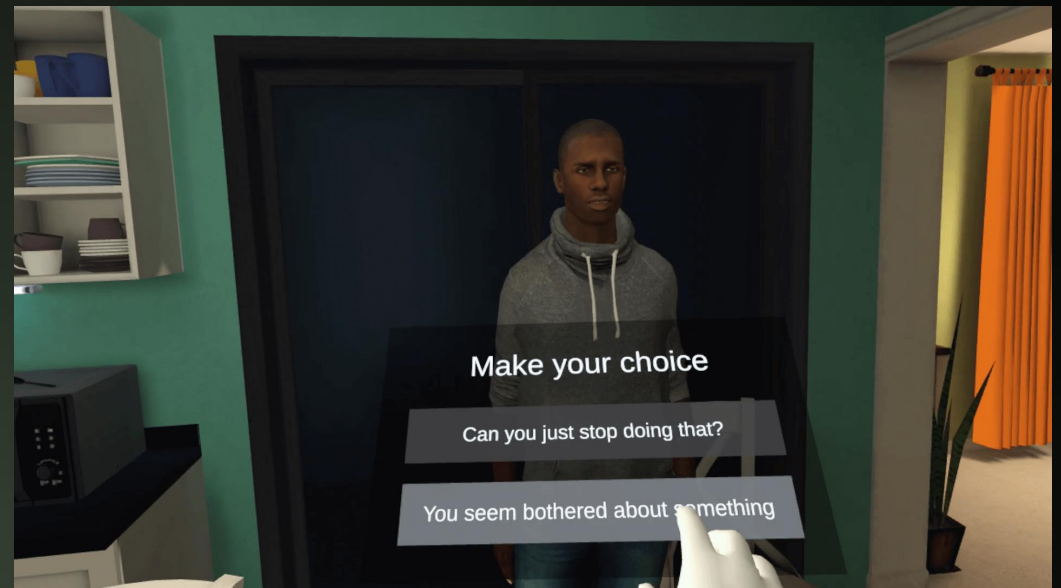
Research can give you information on:

- **Safety**
- **Acceptability**
- **Feasibility**
- **User experience (UX)**
- **Efficacy**
- **Effectiveness**









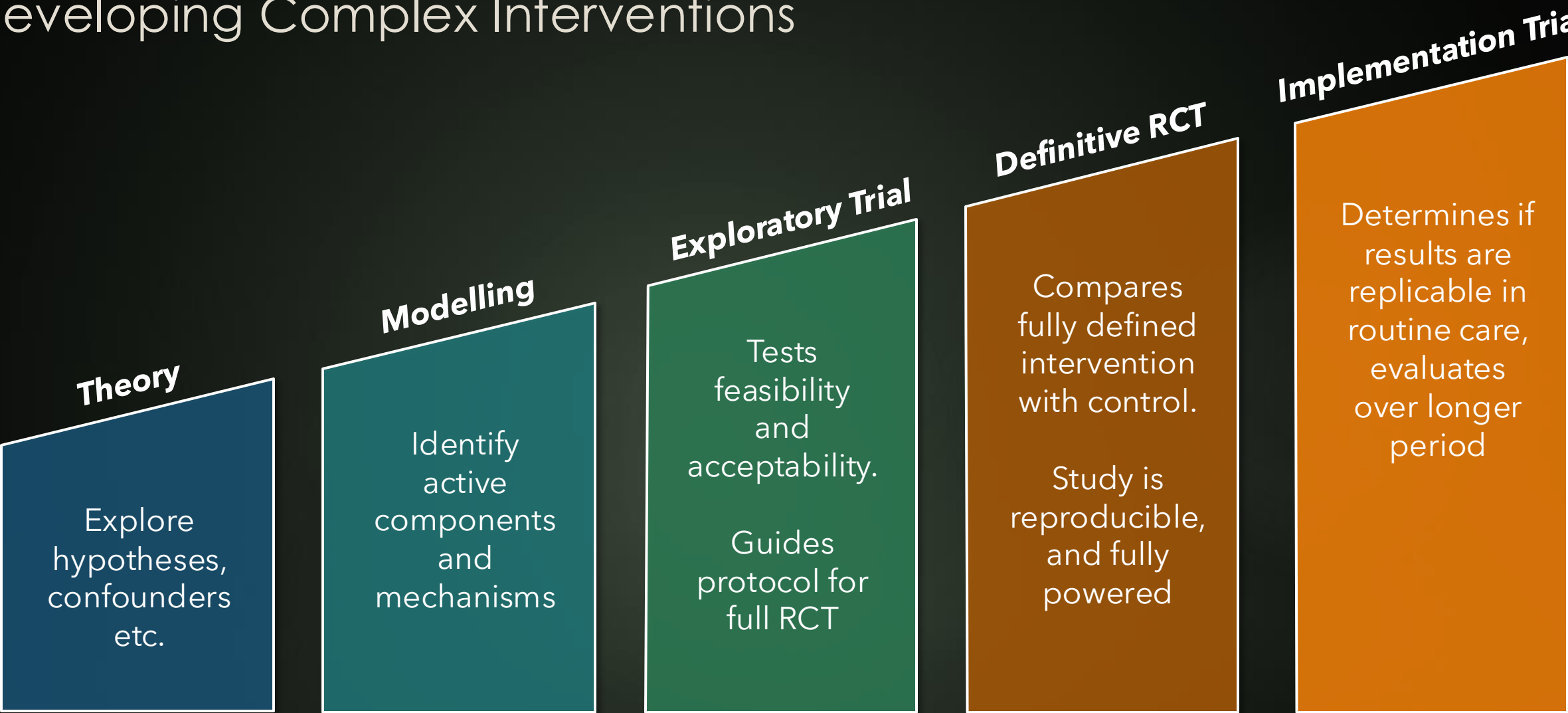
Planning Your Research



Measurement and Research

- Use good measures
 - Accurate
 - Validated (including cross cultural validation)
 - Reliable
 - Sensitive to change
- Multiple measures (but not too many)
- Acceptable to participants (PPI input)
- In line with research question

Developing Complex Interventions



Preclinical

Phase I

Phase II

Phase III

Phase IV



Pathway of evidence generation

Get Started... Some Tips

- Never too early ... never too late
- Find out what is already there
- Start small and well, rather than big and clumsy
- Talk to and involve people with lived experience
- Early research may prevent major issues down the line
- Collaboration/partnership with research experts
 - online profiles, networking, conferences and recent publications.



MATTEO CELLA
matteo.cella@kcl.ac.uk
vrlab@kcl.ac.uk

www.kcl.ac.uk/research/vrlab

Need support?
Want to get started ?
Contact: hin.mindset@nhs.net



Innovate
UK



Health
Innovation
Network
South London



Pioneering better health for all



Applied Research Collaboration
South London

South London and Maudsley 
NHS Foundation Trust



Useful Contacts and Resources

- KCL VR lab - www.kcl.ac.uk/research/vrlab
- NICE guidelines / EVA guidelines
- Digital Technology Assessment Criteria (DTAC)
- The Medicines and Healthcare products Regulatory Agency (MHRA)
- Organisation for the Review of Care and Health Apps (ORCHA)
- NIHR Applied Research Collaboration @ SLaM- <https://arc-sl.nihr.ac.uk/>
- Clinical Research Networks (CRN) local <https://local.nihr.ac.uk/lcrn/south-london/>