



Body, brain and mind

the well-being benefits of urban wetlands

A NERC Valuing Nature Placement

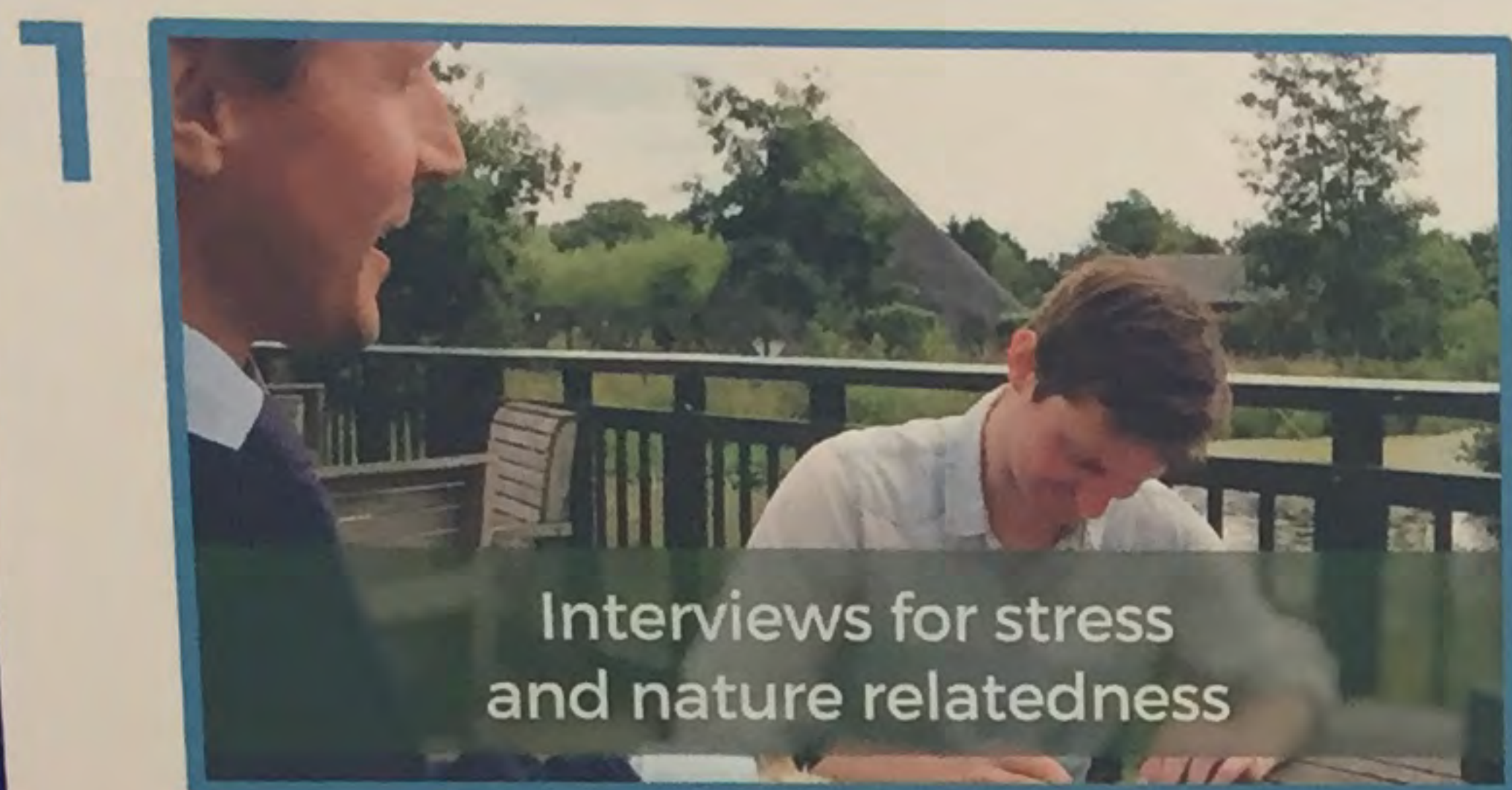
April-July 2017

Jonathan Reeves, Ruth Cromie, Victor Heng, Kate Smith
Wildfowl & Wetlands Trust, Slimbridge, GL2 7BT, UK

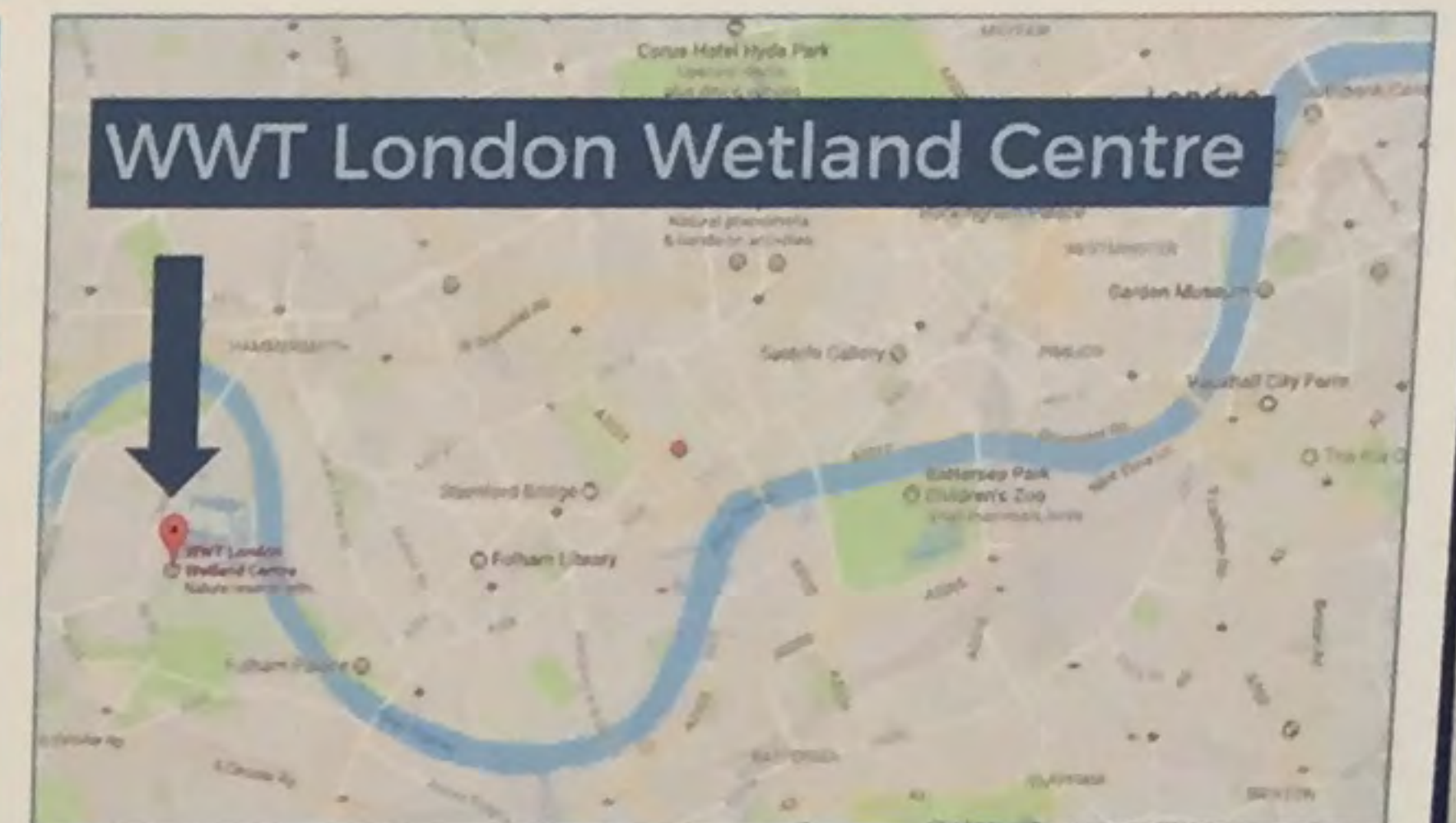
Andrew T. Knight, Ans Vercammen
Conservation Science Group, Imperial College London, SL5 7PY

Placement aims

- ✓ Increase WWT social research capacity
- ✓ Form long-term WWT-Imperial collaboration
- ✓ Trial a method for quantifying the health and well-being benefits of wetland visits



36 participants tested at WWT London Wetland Centre from HSBC (27), Thames Water (3), WWT (4), Panasonic (1), Slough Borough Council (1)



The Technology

Physiological responses

- ✓ Heart rate (HR)
- ✓ HR variability
- ✓ Electrodermal activity
- ✓ Skin temperature
- ✓ Accelerometry
- ✓ Blood volume pulse

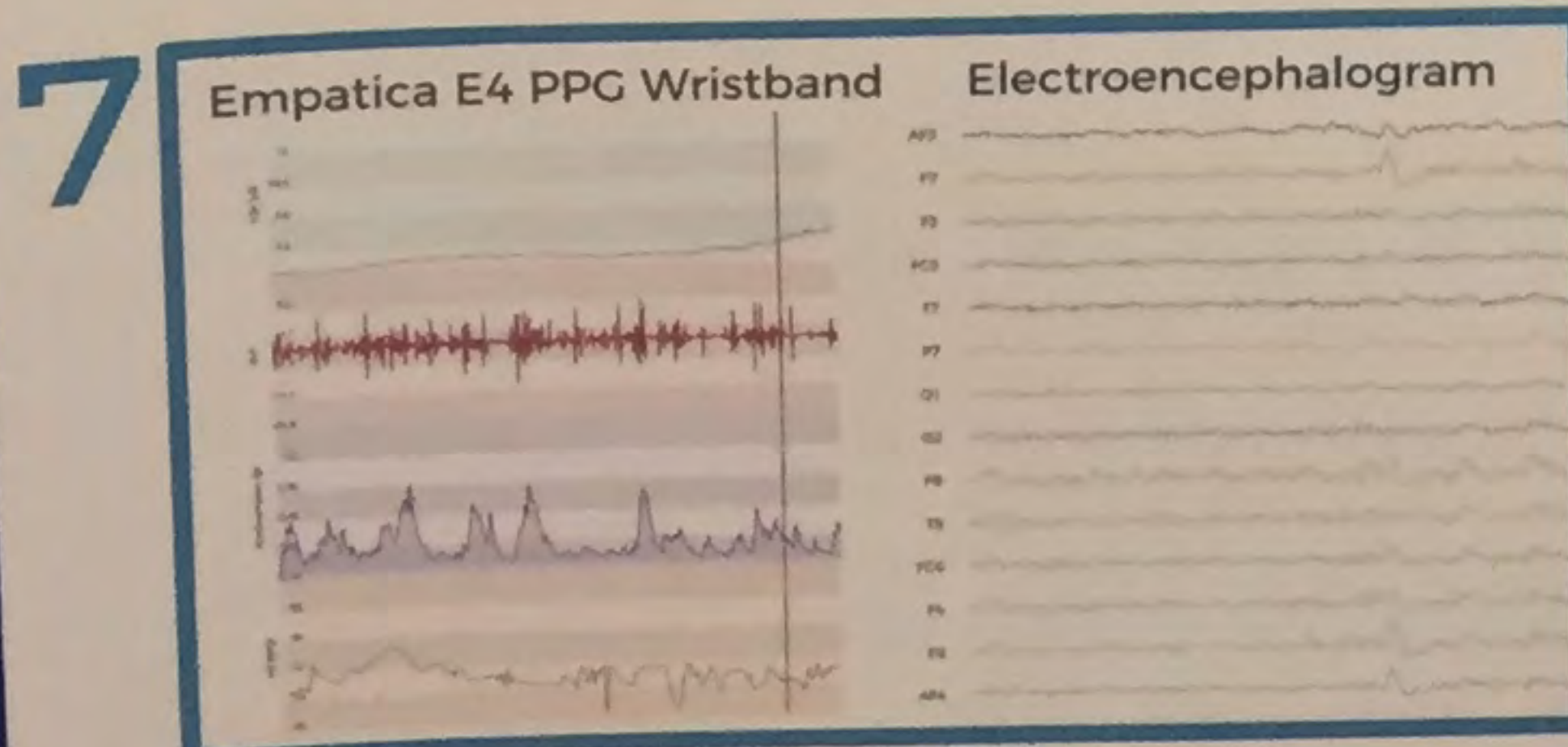
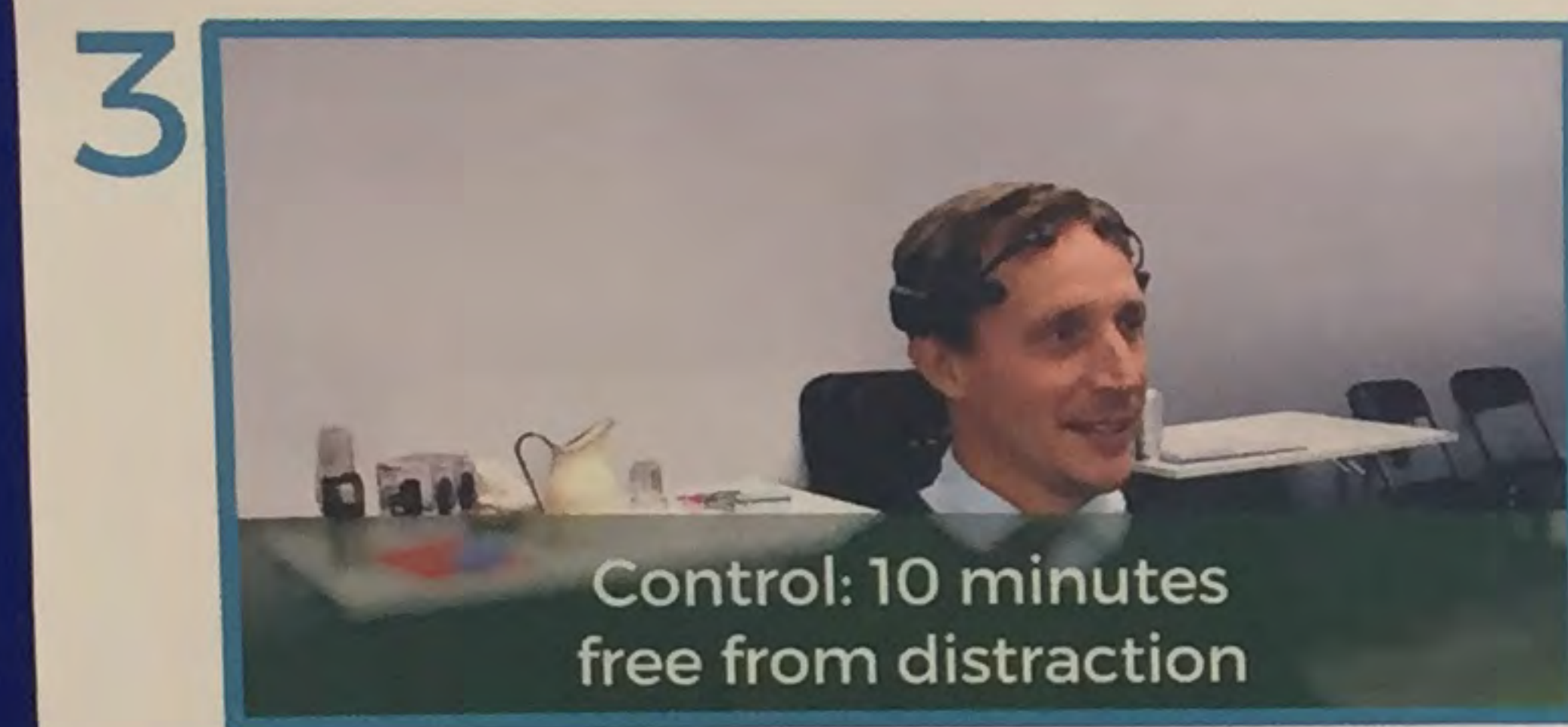
Brain (EEG*) Responses

- ✓ Stress
- ✓ Excitement
- ✓ Engagement
- ✓ Interest
- ✓ Meditation
- ✓ Focus



Empatica E4 PPG Wristband

*EMOTIV EPOC+ Portable Electroencephalogram (EEG)



Raw data capture
Analysis ongoing
More results to follow...

“ I immediately feel better around water ”

“ I felt more comfortable in the urban setting ”

“ After a while the headset started to pinch ”

Nb. Example responses. Not attributable to the pictured participant

Imperial College London

Contact: jonathan.reeves@wwt.org.uk
Thanks to HSBC for the donation of staff time and equipment and Chris Neale and Jenny Roe (SEI, University of York) for data analysis advice
Pictures by Rose Galsworthy

