



**Participant Information Sheet**  
(Version 1, 28/1/2022)

**Title of Project:**

Can the extent of comfortable wrist rotation be altered with immersive virtual reality?

**Researcher name:** Joao H. R. Mineiro

**Invitation and brief summary:**

This information sheet explains what taking part in the study will involve and why this research is being conducted. Your participation is voluntary. You can pull out of the study at any point. Participants must be healthy and aged 18-65 years old. We are studying wrist rotation in immersive virtual reality.

**Purpose of the research:**

Immersive virtual reality technologies (iVR) are a powerful tool to track hand position and orientation whilst individuals are immersed in realistic environments. We currently better understand how VR can influence the perception of virtual hands. However, we still have little knowledge of how VR shapes our real hand movements. Our aim is to study if turning a virtual dial shapes the way we rotate our wrists.

**Why have I been approached?**

You will be aged 18-65 and have access to an Oculus Quest 1 or 2 VR headset. You should not experience any visual, cognitive or upper limb impairments affecting gripping or lifting.

**What would taking part involve?**

This is a remote study. You will need to upload our VR application onto your headset using an online platform (SideQuest or the App Lab). We will collect age, sex and preferred hand data. You will be asked to turn a virtual dial using the controller with your right hand several times. You will either see just the controller or a virtual hand as well. We will collect data on how far you have rotated the dial comfortably and time the task. We will also collect data on how you perceived the virtual hand through a questionnaire. All your data will be anonymised. The study takes less than 20 minutes. You will only need to do it once.

**What are the possible benefits of taking part?**

You will be helping us study how iVR influences hand movements. This study will be the starting point of a PhD degree using iVR in treating hand and wrist pain. It will potentially help develop novel treatments.

**What are the possible disadvantages and risks of taking part?**

Risk of motion sickness and falls is very low. You will be sitting down throughout. We will ask you to turn a virtual dial to the right as far you comfortably can and to stop when you feel you reach your movement limit.

**What will happen if I don't want to carry on with the study?**

If you wish to withdraw from the study, simply remove the headset and close the application. We will not collect any data that can identify you. All anonymised data collected up to the point of your withdrawal will be kept.

**How will my information be kept confidential?**

All data will be anonymised and kept securely. The anonymised data and the study results may be shared with other researchers in the UK and abroad for research purposes or conference presentations only.

If you have any queries about the University's processing of your personal data, further information may be obtained from the University's Data Protection Officer; [informationgovernance@exeter.ac.uk](mailto:informationgovernance@exeter.ac.uk). or <http://www.exeter.ac.uk/ig/>

**Will I receive any payment for taking part?**

You could win a £40 amazon voucher by taking part in the study.

**What will happen to the results of this study?**

The study results are anonymised. They will be disseminated through academic publications and conferences. The results of the study will be uploaded on Open Science Framework. They will be made publicly available when the period of data collection is finished.

**Who is organising and funding this study?**

The study is organised by Joao H. R. Mineiro (PhD student) and Dr Gavin Buckingham. It is part of a PhD degree with the University of Exeter funded by the Engineering and Physical Sciences Research Council.

**Who has reviewed this study?**

This project has been reviewed by the Sport and Health Sciences Research Ethics Committee at the University of Exeter (Reference Number....).

**Further information and contact details**

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