**Notes on information sheet, consent form and debrief documents**

Across the project, we ran 19 experiments across seven strands of research. Experiments were similar in that each involved controlling a computer-generated agent from a first-person perspective. However, instructions and information provided to students varied between strands and within strands. Please refer to the Experimental Protocol document for details of how protocols varied. Despite this variation in study design, the information sheets, consent forms and debriefs provided to participants for behavioural studies were quite similar, with study-specific details varying. A generic information sheet, consent form and debrief is provided below, with sections for study-specific details highlighted. Equivalent details for fMRI studies are provided at the end of this document.

**Participant Information Sheet**

Project title: *[TITLE HERE]*

Researchers: *[RESEARCHER NAMES AND CONTACT DETAILS HERE]*

You are invited to take part in a study. This study has received ethical approval from the Department of Psychology Ethics committee at Durham University. Before you decide whether to agree to take part it is important for you to understand the purpose of the research and what is involved as a participant. Please read the following information carefully. Please get in contact using any of the email addresses above if there is anything that is not clear or if you would like more information.

**What is the purpose of the study?**

The aim of the study is to investigate *[DESCRIPTION OF STUDY AND ACTIVITIES HERE]*.

**Why have I been invited to take part?**

We are recruiting a wide range of participants and are randomly allocating them to different conditions in the experiment.

**Do I have to take part?**

Your participation is voluntary and you do not have to agree to take part. If you do agree to take part, you can withdraw at any time, without giving a reason. Instructions for ending your participation are also provided before starting the computer task.

**What will happen to me if I take part?**

If you decide to take part you will be assigned an anonymous participant code asked to confirm that you are willing to take part and that you understand that you can withdraw at any time. If you are participating for participant pool credits from the Department of Psychology you will be credited with *[NUMBER]* minutes of participation.

**Are there any potential risks involved?**

It is possible that you will feel mild motion sickness while you are completing the navigation task. It is a good idea to sit back from your screen, and take breaks between trials if you feel unwell. If you feel unable to complete the task then you are reminded that you are free to withdraw from the study without having to provide an explanation.

**Will my data be kept confidential?**

All information obtained during the study will be kept confidential. If the data is published it will be entirely anonymous and will not be identifiable as yours.Full details are included in the accompanying Privacy Notice.

**What will happen to the results of the project?**

No personal data will be shared. However, anonymised (i.e. not identifiable) data may be used in publications, reports, presentations, web pages and other research outputs. At the end of the project, anonymised data may be archived and shared with others for legitimate research purposes.

All research data and records needed to validate the research findings will be stored for 10 years after the end of the project.

If you have any further questions or concerns about this study, please contact to the researcher. If you remain unhappy or wish to make a formal complaint, please submit a complaint via the University’s [Complaints Process](https://www.dur.ac.uk/ges/3rdpartycomplaints/).

Thank you for reading this information and considering taking part in this study.

**If you are happy to take part in the research please fill in the consent form.**

**PARTICIPANT CONSENT FORM**

### *STUDY TITLE HERE*

Please cross out as necessary

Have you read and understood the participant information sheet YES/NO

Have you had the opportunity to ask questions and discuss the study YES/NO

Have all the questions been answered satisfactorily YES/NO

Have you received enough information about the study YES/NO

Do you understand that you are free to withdraw from the study:

at any time YES/NO

without having to give a reason YES/NO

without any adverse result of any kind YES/NO

Do you agree to take part in the study YES/NO

“This study has been explained to me to my satisfaction, and I agree to take part. I understand that I am free to withdraw at any time.”

Signature of the Participant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_

Name (in block capitals): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Age:

Gender:

University Email:

I have explained the study to the above participant and he/she has agreed to take part.

Signature of the Researcher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_

**DEBRIEF**

Thank you for taking part in our study. We want to investigate whether learning and remembering locations in a virtual environment is *[DESCRIPTION OF RESEARCH QUESTION]*. You were trained *[DESCRIPTION OF TRAINING DETAILS]*. We hypothesise that *[STUDY SPECIFIC HYPOTHESIS]*, which we tested in the trials at the end of the experiment.

If you would like further information about the study or would like to know about what our findings are when all the data have been collected and analysed then please contact *[PRINCIPAL INVESTIGATOR AND EMAIL]*. However, we cannot provide you with your individual results.

Please do not discuss this study with anybody else as it may affect their performance if they also take part.

**fMRI details**

**Title of project:**

*[TITLE HERE]*

**Researcher(s):** *[RESEARCHER NAME]*

**Contact details:** *[CONTACT DETAILS]*

**Aim of the study:**

Existing literature has confirmed the involvement of specific brain regions in spatial learning, with the use of two differing systems of spatial navigation. However, in human spatial learning studies, there is limited research on *[PROJECT DETAIL]*. This study aims to investigate the neural correlates involved in *[PROJECT DETAIL]*.

**What participants would do:**

You will be trained in a computer-based navigation task. The task will involve *[PROCEDURAL DETAIL]*. Following training, you will be tested in an fMRI scanner on *[PROCEDURAL DETAIL]*. You will be using a keypad that you can navigate left, right, or forwards. Each task will end when the goal is reached and you have found your way to the end location. Both the practice and the experimental task in the fMRI scanner should last no longer than *[NUMBER]* minutes.

**Where the study takes place:**

To develop your procedural expertise, alongside becoming acquainted with the fMRI procedure, you will be pre-trained in the 0-Tesla scanner at Durham University, Psychology Department. Hereafter, the study will be conducted in the fMRI machine at the James Cook Hospital in Middlesbrough, on a 3-Tesla whole-body MRI system.

**Transportation:**

If requested, transportation to and from James Cook Hospital can be organised however, no financial reimbursement can be provided for travel expenses.

**Inclusion criteria for the study:**

* At least 18 years of age.
* No dental braces, pacemakers, cochlear or brainstem implants, or any other surgical implants containing metal prostheses.
* No history of psychiatric or neurological disorders, and no current use of any psychoactive medication.
* No current or previously documented neurological abnormalities.
* **Not**be pregnant, or suspect you may be pregnant.

**Communication of results to participants:**

In the case of any publications, press release or other public or scientific communication related to this work, a copy will be made available to the participant.

**Withdrawal from the study:**

As your participation is voluntary, you are free to withdraw from the study at any moment in time, without providing any given explanation. However, please note that we are obliged to keep the data for 10 years, in which it is normally analysed unless requested otherwise.

**Confidentially:**

This study will comply with the Data Protection Act 1998, as all information collected will be kept confidential and anonymised. With the approval of the Research Ethics Committee of Durham University, other researchers may be allowed access to your data (in the anonymous form only). As well as using your data in the present study, it is possible for your data to be combined with data gathered in future studies. As we are able to keep your data for up to 10 years, when this time period comes to an end, data will be destroyed securely.

In addition to the above, if we suspect that an image of your brain reveals a possible problem, we shall inform your GP (family doctor) who may then contact you and advise you appropriately; as we are not qualified to interpret brain images for clinical purposes.

**Want to participate?**

If you have thoroughly read through the information provided and would like to participate in the study, please see the attached consent form. If, however, you have a few questions, or would like clarification on any aspect of the study or procedures, do not hesitate to contact me at: *[CONTACT DETAILS].*

South Tees Hospital NHS Trust and Durham University MRI Facility

**General Consent Form**

Project Title and Principal Investigator: ………………………………………………………….

………………………………………………………………………………………………………..

I wish for my name and the personal information listed below to be included in the South Tees Hospital NHS Trust and Durham University MRI Facility volunteer database and to be contacted about possible participation in future studies that they have approved: **YES** 🞎 **NO** 🞎

**Year of birth**

**Contact Info (e-mail)**

**Gender**

**Hand preference**

**Colour Vision (intact/altered)**

**Native Language**

Signature: …………………………………………………….. Date: …………………………………..

*South Tees Hospital NHS Trust and Durham University MRI Facility*

South Tees Hospital NHS Trust and Durham University MRI Facility

**General Consent Form**

Project Title and Principal Investigator: ………………………………………………………….

………………………………………………………………………………………………………..

I consent to taking part in the present study that has been approved by the South Tees Hospital NHS Trust and Durham University MRI Facility and confirm that I have been fully informed about the nature of the procedures and have completed the safety questionnaires: **YES** 🞎 **NO** 🞎

I consent to the use of my MRI scans in the present study: **YES** 🞎 **NO** 🞎

I consent to the use of my MRI scans in future studies, that may be conducted by other researchers, that have been approved by the South Tees Hospital NHS Trust and Durham University MRI Facility on the understanding that my data will be passed on in anonymised form by the Principal Investigator of the present study. **YES** 🞎 **NO** 🞎

You may withdraw yourself from the study without giving a reason at any stage of the experiment and you can withdraw your data up until 3 months after you have participated.

The South Tees Hospital NHS Trust and Durham University MRI Facility is not a clinical diagnostic facility and as such does not routinely inspect all scans for anomalies. However, from time to time an anomaly is observed on MRI scan. South Tees Hospital NHS Trust and Durham University MRI Facility can only indicate that further advice might be sought. The presence or absence of an anomalous scan is not an indication of the presence or absence of pathology.

If an anomalous observation were made South Tees Hospital NHS Trust and Durham University MRI Facility **must** inform your General Practitioner.

**Please note:** If you prefer not to have your General Practitioner’s practice informed South Tees Hospital NHS Trust and Durham University MRI Facility will regrettably be unable to scan you. If you are not currently registered with a UK General Practitioner or do not know the contact address of your current General Practitioner South Tees Hospital NHS Trust and Durham University MRI Facility will be unable to scan you.

I consent to my General Practitioner’s practice being contacted if an anomaly is observed and I understand that the South Tees Hospital NHS Trust and Durham University MRI Facility is not offering diagnostic advice and that no clinical advice will be offered.

Please Tick One: **YES** 🞎 **NO** 🞎

Participant Name: ……………………………………………………………………………………………

Telephone number: ………………………………………….. E-mail:

Signature: …………………………………………………….. Date:

General Practitioner’s Practice Address:……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**South Tees Hospital NHS Trust and Durham University MRI Facility**

**SCREENING FORM**

So that we can safely proceed with the examination, we need to check that there are no factors that would prevent you from having an MRI scan. **Please complete this questionnaire and bring it with you**. A member of staff will check through it with you when you arrive

|  |  |  |  |
| --- | --- | --- | --- |
| **QUESTION** | **YES** | **NO** | **COMMENTS** |
| Do you have a cardiac pacemaker or an implanted cardioverter  defibrillator? |  |  |  |
| Do you have an artificial heart valve? |  |  |  |
| Do you have severe heart disease (including susceptibility to arrhythmias)? |  |  |  |
| Do you have an intracranial aneurysm clip? |  |  |  |
| Do you have a programmable intracranial shunt? |  |  |  |
| Do you have Meniere’s disease? |  |  |  |
| Do you have epilepsy or diabetes or a thermoregulatory condition? |  |  |  |
| Do you have a cochlear implant, other type of hearing aid or false teeth? |  |  |  |
| Do you have an implanted neurostimulator or medicine delivery pump? |  |  |  |
| Have you ever been injured by a metallic foreign body which was not removed (e.g., bullet, BB, shrapnel)? |  |  |  |
| Have you had any surgery on your head, spine or chest? |  |  |  |
| Are you wearing an artificial limb? |  |  |  |
| Do you wear a medicine patch (e.g. nicotine, contraceptive, or angina)? |  |  |  |
| Have you ever had any operations which may have involved the use of metallic pins, plates, screws, artificial limbs or ocular implants? |  |  |  |
| Do you have dental work other than fillings? |  |  |  |
| To the best of your knowledge, do you have impaired renal function or are you awaiting a liver transplant? |  |  |  |
| Have you ever worked with metal (grinding, fabricating, welding, etc.) or ever had an injury to the eye involving a metallic object (e.g., metallic slivers, shavings)? |  |  |  |
| Do you have any tattoos or permanent eyeliner? |  |  |  |
| Do you have any body piercings that cannot be removed? |  |  |  |
| **Female participants:** |  |  |  |
| Is there any possibility that you may be pregnant? |  |  |  |
| Are you currently breast feeding? |  |  |  |
| Do you have an contraceptive intrauterine device (IUD)? |  |  |  |
|  |  |  |  |

Due to the strong magnetic field, watches, jewellery, body piercings, hearing aids, credits cards, mobile phones, belts with metal buckles, and pagers are not permitted in the scanner. Neither are loose metallic objects such as pens, coins, hair clips, cigarette lighters, metallic denture plates. Please empty your pockets.

|  |  |
| --- | --- |
| **I have removed the following items from my body (Items will be kept securely in the Control Room):** | |
| Any jewellery, wrist watch or belts |  |
| Any body piercings |  |
| Any hairpins or clips |  |
| Wallet and credit cards |  |
| Coins, pens and cigarette lighter |  |
| Anything else from any of your pockets |  |
| **Female participants:** | |
| Underwire bra |  |

Signed  …………………………………………………… ……………………..       Date……………….

Witnessed By (Member of staff)..…………………………………………...      Date…………….

Information for First-Time fMRI Subjects

The day of the scan:

* If applicable, remember to wear contact lenses instead of glasses.
* Do not drink excessive amounts of liquid, especially caffeine (a diuretic -- an fMRI session seems much longer with a full bladder!).
* Do not wear any shirts with metal around the head (e.g., pullovers with zippers).  Metal buttons and zippers on pants are okay.  Do not use any hairclips and be prepared to remove jewellery.
* For women, if possible, do not wear an underwire bra (the metal can throw off the magnetic field).  Sports bras are usually good and we keep a baggy sweater around if you want to wear it.
* If possible avoid mascara (can contain metal flakes), hair gel (can throw off magnet signal) and wet hair.
* Make sure you know where you are going to meet the experimenter and what time you are expected to show up.

If anything comes up such that you cannot make your scheduled time, notify the experimenter ***as soon as possible****:* 3T MRI at James Cook University Hospital: 01642 282799

While in the scanner:

* If you notice anything vaguely uncomfortable before you get rolled into the scanner, please tell the experimenter. Things that are slightly uncomfortable at the start become excruciating by the end.
* Try not to change head or body position during a scan (while the magnet is beeping). If the head moves, it creates artifacts that are usually difficult if not impossible to fix. The position of body parts in the magnetic field distorts it.  So if you cross your legs, scratch your head, open your mouth, or shift your posture, it can lead to artifacts even if your brain doesn't move.  We try to keep runs as short as possible (ideally under 7 minutes) so that you can stay in the same position the whole time.
* Between scans (when the magnet is not beeping), you can change your body position, scratch, swallow, etc. BUT do your best not to do anything that will move your head from its original position.
* Swallowing can lead to head motion artifacts.  If you can avoid swallowing during a scan, the data quality will be better.  If trying not to swallow makes you gag or swallow suddenly, then it's best to just swallow normally.
* Try to stay relaxed throughout the session. If you tense up at the beginning of a scan, your head can drift as you settle down.
* If you notice anything weird with the stimuli (e.g., they're upside down or you can't see the display or the screen saver comes on partway through a scan) or have problems with the task (e.g., make mistakes, fall asleep), be sure to tell the experimenter after the scan in which it happened.

**DEBRIEF**

Project Title: *[PROJECT TITLE]*

Thank you for participating in this study. The general purpose of this study was to investigate *[PURPOSE OF STUDY]*. It has been established in previous research that *[STUDY SPECIFIC INFORMATION ABOUT PRIOR RESEARCH AND RESEARCH QUESTION]*.

We anticipate that participants will *[STUDY SPECIFIC HYPOTHESIS AND STATEMENT ON IMPORTANCE OF FINDINGS]*.

If you have any questions regarding the study, or would like to know more about methods, procedures, finding, analysis, then please feel free to contact me (details provided below). However, I am not able to provide you with individual information. If there are any issues noted, your GP will contact you directly. If taking part in this study has raised any specific concerns about your health, then I would suggest you consult your GP who will direct you to the relevant personnel, if required.

**THANK YOU AGAIN FOR YOUR CO-OPERATION**