**INFORMATION SHEET FOR PARTICIPANTS**

**Title of study: Breathing and Attention**

I would like to invite you to participate in this research project. This research is being conducted by Timothy E. Roberts, Dr Bethanie Richards, Dr Paul Skarratt, Dr Shane Lindsay in the School of Psychology and Social Work, University of Hull.

Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask me if there is anything that is not clear or if you would like more information.

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

The purpose of the study is to investigate how breathing may influence your perceptual processing, in particular, your visuo-spatial attention (the ability to quickly focus on and process information around you).

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

You are being invited to participate in this study because you are representative of the general population: that is, you have normal visual functioning (NB: vision that is “corrected-to-normal” by glasses or contacts is fine for this task) and you can perform the experimental task.

Photosensitivity is a feeling of discomfort when viewing flashing imagery. You should not take part in this experiment if you have (a) received a diagnosis of photosensitive epilepsy; (b) experienced a seizure when watching television or seeing a strobe light, even just once; or (c) you often feel queasy when seeing flashing images.

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

Participation in this study will involve one session lasting approximately 45-minutes to an hour. If you choose to take part in this study, you will be asked to complete a computer-based task where stimuli will be presented on a screen, and you will be asked to respond by pressing keys on a keyboard. During this task you will be wearing a breathing detection belt that monitors your breathing rhythms which you will be shown how to apply. You will also be asked to provide some demographic information about yourself (age, gender, handedness). The data collected from the computer task will include which keys you have pressed and the speed and accuracy of your responses. The research data is completely anonymous.

**Do I have to take part?**

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in any way. Once you have read the information sheet, please contact us if you have any questions that will help you make a decision about taking part. If you decide to take part we will ask you to sign a consent form.

**Payment/Incentives**

You will be provided with an hour of RPS course credit in compensation for your time.

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

If you do not meet any of the exclusion criteria outlined above, the task itself is innocuous and poses no real risk other than potential boredom (in which case please make the most of the regular breaks!).

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

In addition to the course credit for your time, you will be contributing to cutting-edge psychological research. This work is likely to be published in a peer-reviewed scientific journal and therefore will be accessed by scientists around the world.

**What will happen to my data?**

You will provide us data in two forms. First, in order to take part you will need to provide your name and signature on a paper consent form. This is the only personal data we will collect from you. These forms will be kept safe and secure in a locked room in the School of Psychology and Social Work, accessible only to the research team, and will be destroyed when the researchers have finished this project.

The remaining research data that you provide will be anonymous and will consist of your performance on the computer task and your demographic data (age, gender, handedness etc.). It will not be possible to identify you from this research data. The researchers will keep this data so we can analyse and write up the results for dissemination in scientific journals and conferences. The researchers will store this research data until publication in a scientific journal, after which it may be archived and made publicly accessible (in an anonymous format) as part of the process of publication.

As such, your data will be processed in accordance with the UK-GDPR and the Data Protection Act 2018.

**What if I change my mind about taking part?**

You are free withdraw during the study session without having to give a reason. If you withdraw at that point, we will delete all data collected from you. Please note that once the study session has finished, because your research data will have been anonymised you will no longer be able to withdraw that data.

**Where can you find out more about how your information is used?**

You can find out more about how we use your information:

* By asking one of the research team
* By contacting the University of Hull Data Protection Officer by emailing [dataprotection@hull.ac.uk](mailto:dataprotection@hull.ac.uk) or by calling 01482 466594 or by writing to the Data Protection Officer at University of Hull, Cottingham Road, Hull, HU6 7RX
* By reviewing the University of Hull Research Participant privacy notice: <https://www.hull.ac.uk/choose-hull/university-and-region/key-documents/docs/quality/research-participant-privacy-notice.pdf>

**Data Protection Statement**

The data controller for this project will be the University of Hull. The University will process your personal data for the purpose of the research outlined above. The legal basis for processing your personal data for research purposes under GDPR is a ‘task in the public interest’

If you are not happy with the sponsor’s response or believe the sponsor processing your data in a way that is not right or lawful, you can complain to the Information Commissioner’s Office (ICO) ([www.ico.org.uk](http://www.ico.org.uk) or 0303 123 1113).

**Who has reviewed this study?**

Research studies are reviewed by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and been given a favourable opinion by Faculty of Health Sciences Ethics Committee, University of Hull.

**Who should I contact for further information?**

If you have any questions or require more information about this study, please contact me using the following contact details:

Dr Shane Lindsay, School of Psychology and Social Work, University of Hull:

[s.lindsay@hull.ac.uk](mailto:s.lindsay@hull.ac.uk)

**What if I have further questions, or if something goes wrong?**

If you wish to make a complaint about the conduct of the study, and this cannot be resolved by contacting the research team using the contact details above, then you can contact:

[fhs-ethicssubmissions@hull.ac.uk](mailto:fhs-ethicssubmissions@hull.ac.uk)

**Thank you for reading this information sheet and for considering taking part in this research.**

**CONSENT FORM**

Title of study: Breathing and Attention

Names of Researchers: Dr Shane Lindsay, Dr Paul Skarratt, Dr Bethanie Richards and Timothy E. Roberts

|  | Please tick |
| --- | --- |
| I confirm that I have read the information sheet dated 30/10/24 version 1.0 for the above study. I have had the opportunity to consider the information, ask questions and have had any questions answered satisfactorily. |  |
| I have read and understood the Participant Information Sheet and confirm that I am not photosensitive. |  |
| I understand that my participation is voluntary and that I am free to withdraw at any time during the study session without giving any reason. I understand that after the end of the study session I cannot withdraw my anonymised data. |  |
| I understand that the research data, which will be anonymised (not linked to me), will be retained by the researchers and may be shared with others and publicly disseminated to support other research in the future. |  |
| I understand that my personal data will be kept securely in accordance with data protection guidelines and will only be available to the immediate research team. |  |
| I give permission for the collection and use of my data to answer the research question in this study. |  |
| I agree to take part in the above study. |  |

Name of Participant Date Signature

Name of Researcher Date Signature

**Participation Debriefing Information**

**Title of study:** The Influence of Respiratory Cycles on Visuo-Spatial Attention

**Researcher(s):** Timothy E. Roberts, Dr Bethanie Richards, Dr Paul Skarratt, Dr Shane Lindsay

Thank you for taking part in this research. Here is some additional information about the study.

**Background and research question:**

In this study you were asked to detect where things were on a computer screen and respond to their location using computer keys. The goal of this study is to explore how your breathing patterns (inhalation and exhalation) may influence your cognitive processes such as attention. Previous research has shown that attention may be affected by different phases of breathing, demonstrating lateralised shifts depending on whether a person is inhaling or exhaling.

This study specifically aimed to replicate earlier findings which suggest attentional shifts occur in relation to breathing phase. If it is correct that attentional shifts occur, we expect to see a difference in how accurate and fast people are at detecting whether stimuli are presented on the left or right during inhalation and exhalation.

**Further information:**

If you have any questions or require more information about this study, please contact:

Dr Shane Lindsay, School of Psychology and Social Work, University of Hull, [s.lindsay@hull.ac.uk](mailto:s.lindsay@hull.ac.uk)

If you wish to make a complaint about the conduct of the study, and this cannot be resolved by contacting the research team using the contact details above, then you can contact:

[fhs-ethicssubmissions@hull.ac.uk](mailto:fhs-ethicssubmissions@hull.ac.uk)