



Participant Information Sheet

You are being invited to take part in a study investigating how cognitive (i.e., mental) performance varies over time in everyday contexts among young and older adults. Before deciding whether to participate in this study, it is important for you to understand what it will involve. Please take time to read the following information carefully and discuss it with the researcher if anything is unclear or if you would like more information. Please remember that you are free to withdraw at any time during the study, without having to give a reason.

What is the study's purpose?

This study aims to understand how cognitive performance varies over time in real-world settings, and how this differs between younger and older adults. This study will be conducted by Dr Nan (Elva) Peng, Eleanor Hyde, and Professor Claudia von Bastian from the School of Psychology at the University of Sheffield and is funded by the Economic and Social Research Council, which is part of the UK Research and Innovation. This project has been approved by the University of Sheffield's Ethics Review Committee, administered by the School of Psychology.

Who is taking part?

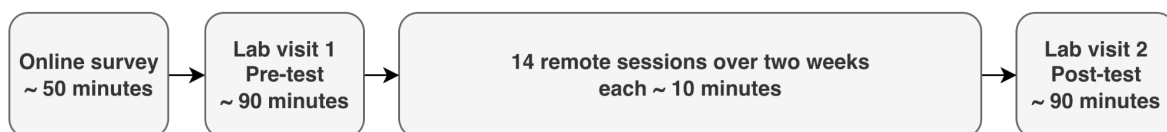
We are looking for participants who:

- Are between 18 – 35 or 65 – 85 years old;
- Have no history of diagnoses of neurological or psychiatric conditions;
- Have normal or corrected-to-normal vision;
- Have normal colour perception;
- Are fluent in English;
- Have access to the internet and an electronic device (e.g., smartphone, tablet, or computer); and
- Can commit to completing the entire study (2 in-lab and 14 remote sessions).

What do I have to do if I take part?

The study will comprise 2 visits to the Behavioural Lab at the University of Sheffield (approx. 90 minutes each), located at 3 Solly Street, Sheffield City Centre, S1 4DE. We will provide you with directions when scheduling your visits to the Lab. Between the 2 in-lab sessions, you will complete 14 remote sessions on your own electronic devices (approx. 10 minutes each) over two weeks.

Study overview



After you read this participant information sheet, you will be asked to check a box confirming that you have read and understood the study information and are willing to take part in the research.



You will then be invited to complete an online survey, in which we will ask you about your demographic background (e.g., age, gender, education), subjective physical and mental well-being, personality, and self-perceived cognitive functioning and efficacy. This online survey will last around 50 minutes.

During the pre-test session, you will first complete a colour perception test (all participants) and a cognitive screening test (for adults over 65 only). You will then complete a series of computer-based tasks that assess different aspects of cognitive performance, including short-term memory, intelligence, and everyday reasoning. Over the following two weeks, you will complete a 10-minute session every day via the Tatoon Web website (www.tatoon-web.com) on an electronic device (e.g., smartphone, tablet, or computer). You will not need to download any software. Each session will include a brief cognitive task, followed by a few short questions about your memory challenges and self-efficacy on that day. A daily reminder will be sent at a random time between 12 and 7 pm. After completing all 14 remote sessions, you will receive an email with details for the post-test session. During the post-test session, you will be asked to complete a series of cognitive tasks similar to those included in the pre-test session. Once you have completed the study, you will be provided with a written debrief sheet. If exceptional circumstances prevent you from completing all 14 remote sessions within 2 weeks, additional time can be offered so that you can complete a total of 14 sessions and, thereby, the full study.

What are the benefits of taking part?

Participants who complete the full study will be reimbursed £60 for their time and effort. This comprises £15 per study phase (pre-test, including the online survey; 14 remote sessions; and post-test) and an additional £15 bonus contingent upon completing all parts of the study. Those who complete the online survey but do not pass the cognitive screening test (adults over 65 only) will receive a debriefing and an honorarium of £5. If you are an undergraduate Psychology student at the University of Sheffield, you can choose to receive a mixture of course credits and monetary compensation at a rate of 4 credits or £10 per hour. In addition, your participation is greatly appreciated by the researchers, and your data will be extremely valuable for improving scientific understanding of how cognitive performance varies over time in everyday contexts. During the study, we would love to hear about your experience of taking part in the study, and after completing the study, you can opt in to receive more information about its design and findings, as well as our future studies.

What are the possible disadvantages and risks of taking part?

We do not anticipate any disadvantages or risks of taking part that are greater than what is typically experienced when using electronic devices (e.g., smartphone, tablet, or computer) in daily life. However, you may find the tasks challenging. If you do feel this study acts as a risk to your mental health in any way or raises any health concerns, please contact your GP or local mental health services such as Mind (www.mind.org.uk). You may withdraw from the study at any point; if you wish to withdraw, please notify the research team via email.



Do I have to take part?

It is entirely up to you to decide whether to take part. If you do decide to take part, you will be asked to sign a consent form before completing the online survey. If you have any questions about the research, you can ask the researcher at any time before, during, or after you complete the survey and experimental sessions (contact details are included at the end of this page). You are free to withdraw at any time during the study and without giving a reason. However, please note that **you can only withdraw data during the study** because your data will be anonymised once you have completed the post-test session.

Will my taking part in this project be kept confidential?

All the information that we collect about you during the study will be kept strictly confidential. Personal information will be kept separately from the research data, and the research data will be anonymised. The anonymised data may later be made available to other researchers in accordance with the Open Science Framework, or in journal publications. No individuals who take part in the study will be identified at any stage. If you wish to receive information about the results of the study after its completion, we may keep your contact details (name and email address).

Who is the Data Controller?

The University of Sheffield will act as the Data Controller for this study. This means that the University of Sheffield is responsible for looking after your information and using it properly.

What is the legal basis for processing my personal data?

According to data protection legislation, we are required to inform you that the legal basis we are applying in order to process your personal data is that '*processing is necessary for the performance of an experiment carried out in the public interest*' (Article 6(1)(e)). Further information can be found in the University's Privacy Notice:

<https://www.sheffield.ac.uk/govern/data-protection/privacy/general>.

What if something goes wrong and I wish to complain about the research?

If you wish to make a report of a concern or incident relating to potential exploitation, abuse or harm resulting from your involvement in this project, please in the first instance contact one of the project's Designated Safeguarding Contacts:

Lead Researchers: Dr Nan (Elva) Peng, n.peng@sheffield.ac.uk;

Eleanor Hyde, erahyde1@sheffield.ac.uk

Project Lead: Professor Claudia von Bastian, c.c.vonbastian@sheffield.ac.uk

If the concern or incident relates to the Designated Safeguarding Contact, or if you feel a report you have made to this Contact has not been handled in a satisfactory way, please contact the Head of School: Dr Chris Martin, psy-hos@sheffield.ac.uk