The Memory Project: An information sheet for teachers.

This sheet provides teachers with information about the Memory Project, being run by Goldsmiths, University of London. It explains the benefits of them involving their students in this exciting international research.

We are looking for students aged 16 years or over who can spare 30 minutes to help with an exciting international study investigating how memory performance changes across our lifespan.

Why should you ask your students to participate?

This study is an opportunity for students to participate in real-world psychology research. They get to experience how relevant practical research works, while at the same time contributing to an important project.

The research directly relates to several key items on the A-Level Psychology syllabus, especially Memory and Research Methods (see later question for details); it therefore provides a relevant teaching opportunity, and a way to engender discussion and increase student engagement with the topic.

This study has full ethical approval, and anyone aged 16 or older can participate without requiring parental approval.

What is this study about?

We all have thousands of thoughts every day and encounter billions of pieces of information over the course of our lifetime. Some people are better than others at remembering these thoughts and information. There is even a rare percentage of the world's population who have Highly Superior Autobiographical Memory (HSAM) and can accurately recall almost everything they have experienced in their lifetime!

It is well known that our memory performance varies with age, and can start to deteriorate as we get older. But at what age does our memory performance peak? And is deterioration with age really normal, and if so when does this start?

If we want to identify those at risk of developing dementia due to diseases such as Alzheimer's disease or CTE (chronic traumatic encephalopathy, caused by repetitive head impact in contact sports) we need to better understand what normal performance is, and have a sensitive test that can identify divergence from the norm as early as possible.

To help us better understand how memory varies across our lifespan our team at Goldsmiths, University of London has developed a simple online test to measure memory performance.

How you can help

We need as many people as possible aged 16 or over to take part.

Importantly, we are looking for ALL levels of memory, so don't worry whether anyone's memory is one of the better ones, worse ones, or just 'average' - we are interested in everybody 😃

As well as asking your students to take part, you can also help by sharing details of this study with other teachers or anyone else aged 16 or over who you think might be interested in taking part – the more people that participate, the more useful our results will be.

If you know anyone in the wider population aged *over* 18 who might want to participate please direct them to our **separate website** for older participants at www.forgettingtest.org.

You can also visit https://sites.gold.ac.uk/artlab to learn about our wider research program, or contact the lead researchers if you have any questions (Terry McGibbon, tmcgi001@gold.ac.uk; Dr Ashok Jansari, a.jansari@gold.ac.uk).

How does this research relate to the A-Level Psychology Syllabus?

This research directly relates to several items on the syllabus, especially the core topics of Memory and Research methods:

- Memory:
  - Particularly relevant to the long-term memory topic. The research involves episodic long-term memory, so provides a way to illustrate the timeframe for LTM and the difference between episodic, semantic and procedural memory.
  - The research measures forgetting, and tests delayed recall using cued-recall. This provides a chance to discuss explanations for forgetting, the possible role of interference (e.g. could errors made during learning provide interference, and what sort of interference would that be?) and the benefit of retrieval cues.
  - The research also includes a recognition test at the end of the process, which provides an opportunity to discuss the difference between recognition and recall, and illustrate that recognition is generally easier.

- Research methods:
  - The research provides an illustration of field experiment methods and a chance to contrast that to laboratory research.
  - The test involves recall at two delays, so provides an example of repeated measures design and an opportunity to contrast that with independent groups design.

How do students take part?

To take part students just need a device with a web browser and an internet connection. It can be done on a smartphone, PC, or tablet. To participate just browse to www.forgettingtest.org/ukschools and follow the instructions. The entire process takes place online.

We also have a flyer which can be provided to students, available at: www.forgettingtest.org/info/Memory_Project_Schools.pdf

Will the test be easy?

To help us profile memory and assess different levels of performance the test needs to be challenging. So, students should not worry if they find it tricky since it is not an 'easy memory game' like you might find on some online sites. If anyone does find it hard, that does not mean they have a bad memory since we already know people with normal healthy memory can find it challenging.

How much time is needed?

The test is divided into three parts. The time to complete Part 1 will vary between people. Some people will only take about **10 minutes** to complete this part while some will take longer; however, the maximum time that this first phase will take is **25 minutes**. The other two parts take only **3 minutes each** - you just need to do them at a later stage, around **one hour** and **24 hours after** the first part.

What time should students start?

Students should start when they know that they are free for up to 25 minutes in a quiet place where they will not be disturbed, for Part 1, and will be able to come back online one hour later for Part 2 and then finally a day later for Part 3. To help us profile how memory changes over the first 24 hours it is really important that participants complete all three parts.

What do students have to do?

The students' task is to memorise pairs of unrelated words (e.g., book - tree) and then their memory for those pairs will be tested.

During testing, they be will be shown the first word in a pair (e.g., book) as a cue and asked to enter the second word (e.g., tree).

To familiarise them with the process there is a short demonstration using a very short list. Students can repeat the demonstration as many times as they like before starting the main part of the study.

After they have learnt all the pairs in the first part of the study they will need to return for a short test (approx. 3 mins) after 1 hour and again after 24 hours; the website will tell them what time they need to return.

What do students get out of it?

We expect that participation will boost students' engagement with the topic, help place their classroom learnt knowledge in a real world context, and consolidate their understanding of memory and research methods.

More directly, students who complete the study get the following:

- their individual memory performance score provided immediately
- option to request a personalised report showing how their memory compares to others who took part
- guidance on how to improve their memory

Can I run the study during a class?

It is possible to run the study within a classroom setting, as long students have access to a quiet environment and their own device (smartphone, iPad etc.), and as long as their timetable allows them to complete all 3 stages. The need to return to the website after one hour and again 24 hours later means it may be easier for students to take part during the last class of the day, or in their own time after school.

Are the timings for parts 2 and 3 critical; what happens if someone returns a bit early or late?

The timings for the 1 hour and 24 hour tests are not critical. It is OK to be a bit early or late. Even if someone if very late they should still complete the study as their data is still useful to us.

Does this study have ethical approval?

This study has full ethical approval, having been reviewed by the Goldsmiths, University of London ethical committee, and anyone aged 16 or older can participate without requiring parental approval.

Do students need to record anything?

Each student is assigned a randomly generated personal code when they start. They will need this when they return to the website for their delayed tests. When the website provides the code it asks the student to write this code down or take a photo on their phone, so that they don't lose it. They will also need this code if they want to request a personalised report showing how their memory compares to others who took part.

Their scores on the 1hour and 24hr test will be provided onscreen at the time they complete these tests. If they want to retain these they should record them at the time as they will not be shown again. The website suggests they write these down or take a photo.

Can students withdraw?

Yes - all participants can withdraw at any time without giving a reason, by using the Withdraw option on the website or by emailing the lead researchers.

Can I try the test myself to see what it is like?

Yes – we encourage teachers to take part themselves so they can experience the test before asking students to do it. As long as you provide your age when asked, we can tell you apart from the students, so your scores won't get mixed up with the younger group. Your own data will also be very useful for our wider project looking across the whole lifespan.