

# Does taking up a new activity benefit our thinking skills?

<b>Submission date</b> 20/02/2018	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
<b>Registration date</b> 22/02/2018	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
<b>Last Edited</b> 19/08/2022	<b>Condition category</b> Mental and Behavioural Disorders	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

As we age, we may experience general declines in our thinking, memory and reasoning skills (cognitive ageing). There is, however, large variation in the degree of decline experienced. Keeping intellectually, socially or physically engaged have all been proposed as potentially protective. These factors have been incorporated in interventions for cognitive ageing, though are often developed and tested in lab-based settings that may not translate to realistic environments. This study tests a range of activities within existing community-based programmes as potential interventions to reduce cognitive ageing in old age. The activities selected vary in their social, intellectual or physical demands, so the key question relates to how these different aspects of engagement might relate to benefits across different types of thinking skills.

### Who can participate?

People aged 65 and over in Edinburgh and the Lothians (Scotland).

### What does the study involve?

Participants attend two screening visits. During their first visit, participants complete some assessments of memory, attention and other cognitive functions. Participants also complete some questionnaires related to their background, current health and well-being, and some physical tests that measure blood pressure, grip strength and lung capacity. A saliva sample are also collected. The saliva sample is tested for different genes later on. The saliva sample stored for gene testing are kept completely anonymous as these tests are of no importance for your health as an individual. Participants are then randomly allocated into one of six activities that could be any of the following: computer classes, participation in social clubs, bingo, exercise or sport classes, gardening, dance or drama groups, musical instrument or language classes, and woodcraft. Participants need to be randomly assigned to each group to ensure that any changes observed as a result of taking up a new activity are not because of initial differences between participants. The activity duration will be around 2 hours per week and will run for between 10-12 weeks. Participants return for another testing session and are asked repeat the cognitive and health measures taken at the first session. After completing this second assessment, you will be

given the opportunity to complete a second new activity, or return to complete some further tests after about 3 months. You do not need to decide on that just now as you'll be given fuller details at the time.

What are the possible benefits and risks of participating?

Participants may or may not get a direct benefit from taking part in this study though all participants will attend a new activity free of charge. The outcomes of the study will, however, help to better understand how taking up new activities might benefit thinking skills. It is not thought that there are many disadvantages. It is highly unlikely that participation in this study will cause participants to become bored, tired or distressed; however, if this happens, participants can stop at any time. If participants become distressed for any reason, they may discuss this with any of the researchers.

Where is the study run from?

This study is being organised The Ageing Lab at Heriot-Watt University (UK).

When is the study starting and how long is it expected to run for?

June 2017 to March 2020

Who is the main contact?

Dr Alan Gow (A.J.Gow@hw.ac.uk).

## Contact information

**Type(s)**

Scientific

**Contact name**

Dr Alan Gow

**ORCID ID**

<https://orcid.org/0000-0002-3320-4531>

**Contact details**

Department of Psychology

School of Social Sciences

Heriot-Watt University

Edinburgh

United Kingdom

EH14 4AS

## Additional identifiers

**Protocol serial number**

1034

## Study information

**Scientific Title**

The Intervention Factory: Advancing community-based activities as interventions for cognitive ageing

### **Study objectives**

Primary study objective: To develop and test the efficacy of a series of real-world activities as potential interventions to reduce or delay cognitive ageing. Specifically, examination of the effects of interventions on cognitive ability at both general and domain-specific levels (memory, processing speed, reasoning), exploring whether different intervention types have different effects.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

1. School of Social Sciences Ethics Committee, Heriot-Watt University, 12/05/2017, ref: 2017-453  
1. South East Scotland NHS Research Ethics Committee, 22/12/2017, ref: REC reference number: 17/SS/0153, SSA reference number: 17/SS/0157, IRAS project ID: 238302

### **Study design**

Single-centre interventional randomised parallel trial

### **Primary study design**

Interventional

### **Study type(s)**

Prevention

### **Health condition(s) or problem(s) studied**

Cognitive ageing

### **Interventions**

Participants meet with a researcher at Heriot-Watt University on two occasions. During their first visit, participants complete some assessments of memory, attention and other cognitive functions. Participants also complete some questionnaires related to their background, current health and well-being, and some physical tests that measure blood pressure, grip strength and lung capacity. A saliva sample are also collected. The saliva sample is tested for different genes later on. The saliva sample stored for gene testing are kept completely anonymous as these tests are of no importance for your health as an individual. The researcher explains each assessment, and are able to ask any questions as you go along. The testing sessions last about 2.5 hours, and there are time for breaks.

On completion of their baseline assessments, participants are randomised to one of six intervention groups: language classes, social groups, handicraft/woodcraft classes, bingo, exercise classes and computer classes. All interventions run for 10-12 weeks and all are based within existing community-based settings.

All interventions are community classes that run in Edinburgh and surrounding areas. The research team is not involved in the interventions (these are for example, classes run by Adult Education or similar organisations). Participants attend these groups as if they were regular attendees; the classes are not constituted for the purposes of the study. Participants are

assigned to one of the six activity groups after their baseline assessments, which must constitute a new activity for them. After completing their new activity for ~10-12 weeks, participants return for follow-up assessments.

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

Cognitive ability is measured using the Mini-Mental State Examination, the Clock Drawing Task, psychometric tests (from the Wechsler Adult Intelligence Test (WAIS)-IV, Wechsler Memory Scale (WMS)-IV at baseline and three months.

The main analyses will be mixed model analysis of variance. Briefly, the cognitive domain scores will be computed as described in the WAIS-IV and WMS-IV manuals. To investigate the effect of the interventions on cognitive performance, 6 x 2 mixed model ANOVA will be conducted with the between factor Group (five intervention groups and the placebo control) and within factor Time (pre-test, post-test) for each of the cognitive ability domains separately.

## **Key secondary outcome(s)**

1. Mental wellbeing is measured using the Warwick-Edinburgh Mental Wellbeing Scale at baseline and three months.
2. Quality of life is measured using the WHO Quality of Life Scale at baseline and three months.
3. Anxiety and depression are measured using the Hospital Anxiety and Depression Scale at baseline and three months.
4. Physical function is measured at baseline and three months, comprising: blood pressure is measured using a digital sphygmomanometer; lung function is measured using a spirometer; grip strength is measured using a handheld dynamometer; balance, chair stands and walk speed are measured using the Short Portable Physical Performance Battery.

## **Completion date**

31/03/2020

# **Eligibility**

## **Key inclusion criteria**

1. Aged 65 or over
2. Resident in Edinburgh or the Lothians

## **Participant type(s)**

Healthy volunteer

## **Healthy volunteers allowed**

No

## **Age group**

Senior

## **Sex**

All

**Total final enrolment**

336

**Key exclusion criteria**

1. Younger than 65 years old
2. Not resident in Edinburgh or the Lothians
3. Diagnosed with a memory/cognitive impairment or dementia

**Date of first enrolment**

01/06/2017

**Date of final enrolment**

31/10/2019

**Locations****Countries of recruitment**

United Kingdom

Scotland

**Study participating centre****Heriot-Watt University**

Department of Psychology

School of Social Sciences

Edinburgh

United Kingdom

EH14 4AS

**Sponsor information****Organisation**

Heriot-Watt University

**ROR**

<https://ror.org/04mghma93>

**Funder(s)****Funder type**

Charity

**Funder Name**  
Velux Stiftung

## Results and Publications

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be available upon request from Dr Alan Gow (A.J.Gow@hw.ac.uk), as raw or computed data in anonymised format for the purposes of scrutiny of published results or agreed new analyses. Participants consent to data being retained for future analyses coordinated by the research team, but not for these to be uploaded to a public repository; all requests for data will be via the Principal Investigator Dr Alan Gow.

### IPD sharing plan summary

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Basic results</a>		23/04/2021	23/04/2021	No	No
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Interim results article</a>		06/12/2021	19/08/2022	Yes	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes