# Lab 5: Mental imagery lecturer’s notes

## License

These lab classes were developed at the University of Nottingham as part of the first year course in BSc (Hons) Psychology, with support from the Higher Education Association Psychology Network (HEA-PN). The materials provided here may be distributed freely, but please acknowledge the University of Nottingham and the HEA if you use them.

## Lab class 5: Mental Imagery

This class allows the students actually to generate an experiment in PsychoPy.

## Learning objectives for this class

* What is mental imagery and what are the main theories
* How can we study it?
* How to create a PsychoPy experiment from scratch

## Basic structure

* Talk pt 1:
* Mental Imagery
* Generate the experiment
* Break
* Talk pt 2:
* Data analysis (individual correlations and a one-sample t-test on the group)
* Conclusions from group data

## Slides pt 1

* Creating the Trial Types file

Do this as a demo and THEN let the students do it, do NOT do it with them following as you go. They should be able to do all this by now so just need to see quickly what they’re aiming for

* Start with non-mirrored G:
  + In the orientation column create values 0,10,20,…350   
    (by doing this first you know how many rows you need)
  + For *image* in the same set of rows insert *G.png*
  + For *mirrored* insert *0* (zero, not letter O)
  + For *corrAns* insert *left*
* For non-mirrored G:
  + Copy the G block and paste below
  + Set *image* to *revG.png*
  + Set *mirrored* to *1*
  + Set *corrAns* to *right*
* Copy all the cells for G and paste below
* For this new pasted block do Find…Replace… to replace *G.png* with *R.png*

Things that are likely to go wrong with students’ versions:

* *Stimuli don’t change on each trial*. In target component they forgot to “set every repeat” for the orientation/image
* *Error message “xxxx.png couldn’t be found”.* Did they put the images in the right location, next to the experiment?
* *Error message “Syntax error: invalid syntax”*
  + Do they have spaces in one of their component names or parameters?
  + Is the experiment settings formatted correctly (matching brackets and inverted commas)?

## Slides pt 2

There is quite a bit to this analysis, with filtering and moving data around in the spreadsheet. Make sure you get all the steps clear in your head before you start!

There is no batch analysis script for this practical; the versions of the experiment created by the students all differ enough that the automated analysis requires too many checks! As a result, for this study you do need to get students to analyse their own correlation coefficient and bring that (plus age and gender) to the demonstrators to enter into a central sheet.

* For your report
* students should be able to retrieve/deduce most of this information from PsychoPy

Batch analysis can be performed while the students get the details for their report

* Group analysis

Students should have learnt how to perform the t-test in lectures by now. Show them briefly (or not?) how to do it with the correlation coefficients, then show them where to fetch the file to do it themselves

They should also fetch summary information on number of subjects and age.

Give some information about what they might write in their reports? E.g. that the aim was to replicate