

PS5232- Assessment in Clinical Psychology

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Course Overview

The aim of this module is to provide a comprehensive introduction to the theory and practice of clinical psychology in the context of understanding the neural mechanisms that underlie dysfunctional behavior. This module therefore is at the interface of several disciplines, including cognitive neuroscience, cognitive psychology, neurology, psychiatry and gerontology.

We will focus on examples where normal lapses in psychological functions — such as inattention or forgetting— progress beyond a healthy spectrum, into disorders like spatial neglect or amnesia. We will emphasise that clinical conditions can be interpreted as reflecting extreme individual differences, and we will explore how these individual differences can be assessed using — for example — behavioural tasks and neuroimaging.

This module aims to provide you with a good understanding of the normal variation in psychological processes, and how brain disorders can lead to variation beyond this range. In addition, the course will help you gain knowledge about practical aspects of psychological testing, including how to assess the impact of brain pathology on behavior.

Practical Afternoon Classes

For the practical classes, students will be divided into three groups for hour-long sessions. The content of the classes will vary. Some will focus on introducing you to the theoretical background of some psychological assessment tools, and enable you to practice administering them. You will also learn about some neuroscientific methods available for the evaluation and quantification of pathology in the nervous system as a result of injury or illness. Other classes will be devoted to student-led group discussions, where you will present and debate an issue in psychological assessment which has generated controversy in the scientific world, and captured the public imagination. This is designed to help you appreciate how basic research can challenge clinical practice, and gives you the opportunity to consider how research could further improve clinical outcomes.

Tutorials

The aim of the tutorial is to give you a "hands-on" introduction to current research methods in clinical psychology. Under supervision, you will choose a scientific paper (for instance, one that was presented in the Lectures) and propose a follow-up research project. The aim of your research project could for instance be a better understanding of disease mechanisms or a more efficient assessment or treatment. For the tutorials, you will prepare one Power Point slide and a 3-minutes pitch that presents a research proposal to an intelligent, but not specialised audience. The tutorials will prepare you for the final assignment: a poster describing a research proposal.

Assessment

You will submit your project proposal as a poster hand-out in MMS for course assessment. The poster hand-out should be on one A4 paper, with font Times New Roman of minimum 12 pt. You may find helpful to organise it under the following subheadings: Project Title/Author/Matriculation Number, Aim, Background, Hypothesis, Methods, Predictions, Theoretical/Clinical Implications and Resources Needed.

Textbooks

Although the module does not follow one particular textbook in full, the following provide a useful source of information several chapters of which we will use in some lectures or tutorials, in conjunction with more specific readings.

- Kolb, B, Wishaw, I.Q. Fundamentals of Human Neuropsychology, (7th ed), Worth Publishers 2015
- Lezak, M.D., Howieson D.B., Biegler E.D, Tranel D Neuropsychological Assessment. (5th ed), 2012. Oxford University Press. Particularly chapters 1,2,3, 4 and 8.
- Martin, G.N. and Carlson, N.R. Psychology (6th ed.). 2019. Pearson Education Ltd. Particularly chapters 2, 4 and 11.

Recommended reading for the Tutorials

- Divan, A. Communication skills for the biosciences. A graduate guide. 2009. Oxford University Press. Chapters 8 “Writing a research proposal” and 14 “Preparing and presenting a research poster”.
- Bourne, P.E. Ten simple rules for making good oral presentations. PLoS Comput Biol 3(4),2007. <http://www.ploscompbiol.org/article/info:doi/10.1371/journal.pcbi.003007>

Course Contents

Week 6: Basic concepts in assessment.

Lecture 1

Assessment in Psychology: aims, concepts and assumptions. What do we mean when we talk about “individual differences”? How can we differentiate “normal” from “abnormal” psychology by looking at groups of different individuals (e.g. statistical distributions, norms, outliers)? Clinical classification of the psychological diseases (DCM and ICD). How can we differentiate “health” and “disease” (ie biological, cognitive and social models for disease mechanisms).

Practical 1

Behavioral assessment using paper-and-pencil and computerized versions of the test. How can behavioural tasks help us understand and systematise individual patients' symptoms?

Tutorial 1

Introduction to the research project and group assignment.

Week 7: Methods for Assessing Psychological Dysfunction

Lecture 2

Evaluating assessments (comparison standard, validity, reliability, specificity, sensitivity and predictive power). Critical evaluation of neurobiological assessment methods (genotyping, neuroanatomy, lesion symptom mapping, functional and mollecular neuroimaging)

Practical 2

Neuroanatomical assessment – the normal brain, stroke diagnostic using brain imaging

Tutorial 2

Individual project presentations.

How does my research aim fit in the context of previous work?

Week 8: Showcase 1. Spatial attention and spatial neglect.

Lecture 3

Disorders of spatial attention: case history, assessment, disease mechanisms and treatment.

Practical 3

Student power-point presentations showcasing a clinical condition of your choice: case history, assessment, mechanisms and treatment

Tutorial 3

Individual project presentations.

How do I demonstrate a match between my aim and my methods?

Week 9: Showcase 2. Executive function and executive dysfunction

Lecture 4

The executive functions are essential for adapting to novel situations. What are the cognitive processes behind the executive function ? How do we understand, assess and treat executive dysfunctions ?

Practical 4

The pros and cons of cognitive enhancement.

Tutorial 4

Individual project presentations.

How do I acknowledge limitations and propose further directions?

Week 10: Individual variables in clinical assessment

Lecture 5

We will discuss how neural and behavioral variables can impact on the result of the clinical assessment.

Practical 5

This practical will be dedicated to preparing for the course assessment.

Tutorial 5

Questions and Answers

What can I do to prepare in advance for starting the module

No preparation is required. However, if you want, you can start by browsing the readings from the list above and by thinking of a possible research idea that you may want to work on for your course assessment.

Good academic practice

It is important that you familiarise yourself with the Good Academic Practice policy:

<http://www.st-andrews.ac.uk/media/teaching-and-learning/policies/gap.pdf>

Most of you will design your research proposal as a follow-up on a published study and cite the relevant publication in your poster. If you cannot think of a follow up experiment, it is allowed to re-write an already published experiment as if it was a research proposal. In this case, you must state this fact upfront in your poster, for instance by including the statement: “This research proposal is a re-write of the Experiment X in the study by Y [citation]” at the beginning of the poster. Failing to disclose this can be considered plagiarism.