2017 PSYC3310 Topic Descriptions

Notes
You will be allocated to a single Topic that you will study in detail throughout the semester. The seminars and tutorials will assist you to undertake a small-group problem-based research project about the topic.

Please note that Topic seminars and tutorials are linked. When entering preferences you must consider whether you can attend both. You CANNOT pick a seminar from one Topic and a tutorial from another.

Topic 1 (Seminar: Tuesday 1100 - 1245; Tutorial: Wednesday 0900 - 1045)
Seminar leader: Dr Allison Fox | Phone 6488 3265 | Email allison.fox@uwa.edu.au

Atypical hemispheric lateralization and clinical neuropsychology
The notion that the two hemispheres of the brain are differentially recruited during the performance of distinct motor and cognitive tasks has been clearly demonstrated in classical experiments within the experimental psychological research literature. Emerging brain imaging techniques (e.g. ERP, fTCD, fNIRS) suitable for use in vulnerable populations have shown considerable promise in contributing to our understanding of the development of hemispheric specialization and its relationship with psychological functioning. During the seminar series, students will evaluate current research that highlights the relationship between atypical hemispheric lateralisation and clinical neuropsychology. In the laboratory series students will work in groups with their tutor to design and conduct an experiment addressing a research question of mutual interest in this topic area.

Topic 2 (Seminar: Wednesday 0900 - 1045; Tutorial: Wednesday 1100 – 1245)
Seminar leader: Dr Allison Fox | Phone 6488 3265 | Email allison.fox@uwa.edu.au

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Topic 3 (Seminar: Monday 1200 - 1345; Tutorial: Monday 1400 – 1545)
Seminar leader Dr Jason Bell | Phone 6488 3231 | jason.bell@uwa.edu.au

The relationship between food perception and eating disorder symptoms in young women
Biases in the perception of food imagery have been linked to dieting behaviours, eating disorders and obesity. For instance, automatic approach tendencies, an implicit tendency to approach food, have been associated with increased food consumption. It has also been proposed that individuals with elevated eating disorder symptoms may show different tendencies to food stimuli, including healthy food and/ or unhealthy food. It is thought that these biases may serve to maintain and/ or exacerbate disordered eating behaviours. For example, research has shown that participants attempting to diet, without success, have greater approach tendencies towards both high- and low-fat foods than people who are not dieting. In this course, we aim to gain a better understanding of how these automatic approach (or avoidance) tendencies differ in individuals across a spectrum of eating disorder symptomologies. Example projects likely to be run by students in this course include 1) examining automatic action tendencies to healthy versus unhealthy food; 2) comparing explicit attitudes and implicit approach and avoidance tendencies towards food; 3) examining the relationship between approach and avoidance tendencies and eating disorder symptomology.

Topic 4 (Seminar: Wednesday 1300 – 1445; Tutorial: Tuesday 1100 – 1245)
Seminar leader Dr Linda Jeffrey | Phone 6488 3096 | linda.jeffery@uwa.edu.au

Fascinated by faces: How do we extract the social information that faces convey?
Have you ever stopped to think about how much crucial social information is conveyed by faces? Imagine what life would be like if you couldn’t recognise faces or were unable to tell that someone was upset from their facial expression. Our ability to extract information from faces at a mere glance is essential for social interaction. Faces help us determine an individual’s identity, sex, ethnicity and attractiveness, as well as providing insights into how people are feeling and what they are attending to. Yet all faces are remarkably similar as visual patterns, so we rely on very subtle differences and variations between them to make all these judgements. It’s not surprising that face perception has been described as our most exquisite perceptual ability! How and why are we so good at processing faces? What structures and systems in the brain support face perception? Do people differ in their ability to read faces? Are we better at processing some kinds of faces than others? Can we extract information about personality from faces? We will address these questions in the seminar series and explore some current issues in face perception in depth including a) the cross-race effect, in which people have trouble remembering faces from unfamiliar ethnic groups, b) evolutionary explanations for why we find some faces more attractive than others, c) how we rapidly makes judgements about personality and behavioural attributes from faces (but are they accurate?) and d) impaired face perception in prosopagnosia and autism. The research project will allow students to investigate a novel question in face perception, introduce students to techniques used to investigate face perception and allow students to gain experience in conducting a real research project.
# Learning and memory for fun and profit #
This specialist topic will look at how we learn from experience: particularly, how we learn what factors predict good (rewarding) and bad (punishing or aversive) outcomes, and how we use that knowledge to plan and make predictions about future events. We will look at how reward impacts on episodic memory, and how actual or anticipated reward can improve memory for single experiences. Here we will look both at the role of extrinsic rewards (e.g., money), and intrinsic rewards (e.g., learning interesting information). We will also look at how people sample information from their environment and from memory in order to evaluate options, form preferences, make choices, and plan for the future. In many of the papers we read we will cover other areas of interest, including the neuroscience of reward and memory and effects of healthy ageing. In the laboratory component, we will run a behavioural experiment that examines the relationship between reward and memory. A major focus in the experimental component is on using data to test theoretical predictions, and about doing open and transparent science.

Cognition & Emotion
Over the past three decades, psychological theorists have placed increasing reliance on cognitive models of emotional vulnerability and dysfunction, to better understand, and develop more effective interventions for, heightened negative emotion. These cognitive models have been motivated by the clinical observation that individuals who suffer with emotional pathology often report distinctive patterns of negative thought, which plausibly could contribute to the onset and maintenance of their emotional symptoms. The genesis of this negative thought content is attributed to biases in selective information processing, which operate at a low level within the cognitive system, and may not themselves be accessible to introspective awareness. For example, cognitive models propose that anxiety-linked biases in selective attention and interpretation, which favor the processing of negative information, play an important causal role in susceptibility to experience unduly intense anxiety responses. This specialist topic will explore how understanding of emotional vulnerability has been enhanced by research investigating biases in the way individual’s process emotional information in their environment. In the seminars you will be encouraged to critically evaluate the different types of experimental approaches used to assess and modify patterns of biases in information processing, and to evaluate the capacity of different models of emotional vulnerability to accommodate research findings. In the labs, research projects will likely focus on the development of novel experimental tasks designed to modify biased information processing, in ways that may beneficially influence emotional vulnerability.
autism and schizophrenia are contrasting conditions with diametrically-opposing phenotypes. There is now good evidence that neurotypical individuals who report high levels of mild autistic- or schizotypy-like traits show similar patterns of cognition as individuals with a clinical diagnosis of autism or schizophrenia. We will investigate whether such assertion extends to the perception of visual information and selection behaviours.

**Topic 8 (Seminar: Wednesday 1400 - 1545; Tutorial: Thursday 0900 - 1045)**
Seminar leader Prof David Badcock | Phone 6488 3243 | david.badcock@uwa.edu.au

**Mid-level vision and perceptual disorders**
Perceptual processes link people to their environment and so play an important role in determining human behaviour. In vision there is a challenge in taking the many local measures of regions in an image and combining them to create distinct descriptions of the objects in the scene. This process of collecting the local scene estimates into groups is the role of mid-level vision. Frequently, difficulties with mid-level vision are reported in groups with perceptual disorders, such as autism, migraine, dyslexia, schizophrenia, amblyopia and preterm-birth infants.

This unit will teach what mid-level vision is, and how we can test those perceptual functions. We will discuss evidence that suggests those processes are abnormal in the groups listed above. We will also teach you how to design and conduct experiments intended to tell us more about these perceptual processes in normal vision so that they can be later applied to such groups. This will involve learning about the methods of visual psychophysics and how to evaluate performance in individuals.

**Topic 9 (Seminar: Tuesday 1300 - 1445; Tutorial: Monday 1200-1345)**
Seminar leader Assoc. Prof Troy Visser | Phone 6488 3635 | troy.visser@uwa.edu.au

**Brain Training: Pathway to Improvement or Road to Perdition?**
Commercially available “brain-training” programs such as Lumosity offer hope for improvement in cognitive function, and the potential to combat cognitive decline. However, what does psychological science have to say about cognitive training? The answer is decidedly mixed. This unit will look at the literature surrounding cognitive abilities, individual differences, and efforts to improve or modify cognitive performance. This includes an examination of the effects of both formal training programs as well as informal activities like video game playing. The research project in this seminar will look at training visual attention and whether there is any evidence for “super-attenders” – people who are better at tasks such as visual search.

**Topic 10 (Seminar: Thursday 1100 – 1245; Tutorial: Friday 1100 – 1245)**
Seminar leader Dr Nicolas Fay | Phone 6488 2688 | nicolas.fay@uwa.edu.au

**Culture Evolves**
Humans and non-human primates have culture (the passing on of traditions by learning from others). However, it’s been argued that only human culture evolves; it accumulates as information is passed from generation to generation, and builds on the achievements of prior generations (known as cumulative cultural evolution). In this special topic we’ll examine the mechanisms that
drive cumulative cultural evolutions. Put another way, we’ll explore the factors that foster effective group decision-making. To do this we’ll use the experimental methods typical of psychology.

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**Topic 11 (Seminar: Thursday 1300 - 1445; Tutorial: Friday 1300 - 1445)**

Seminar leader Dr Nicolas Fay | Phone 6488 2688 | nicolas.fay@uwa.edu.au

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**Topic 12 (Seminar: Monday 1400 - 1545; Tutorial: Thursday 1600 – 1745)**

Seminar leader Dr Mark Hurlstone | Phone 6488 3249| mark.hurlstone@uwa.edu.au

**Behavioural Economics**

From medicine and finance to science and the arts, most aspects of human activity involve people making different kinds of decisions. The standard model of decision-making in economics contains some very strong assumptions. Specifically, this model assumes that people are rational, calculated, purely self-interested, and computationally proficient utility-maximisers—they know what makes them happy and always make decisions that maximise this happiness. Although this standard model sometimes works very well, on other occasions it fairs very badly. Behavioural economics is a relatively new discipline that operates at the intersection of economics and psychology. It attempts to increase the explanatory power of economic theory by providing it with more psychologically plausible foundations. Behavioural economics is about testing the standard economic model on humans—seeing when it works and when it fails—and asking whether it can be augmented to better accommodate human behaviour. In the seminar series for this specialist topic, students will receive an introduction to some of the central ideas in behavioural economics and their applications. Research projects will involve laboratory experiments that seek to cast light on the psychological factors underpinning economic decision-making.

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**Topic 13 (Seminar: Thursday 0900 - 1045; Tutorial: Friday 0900 - 1045)**

Seminar leader Assoc. Prof Romina Palermo | Phone 6488 3256 | romina.palermo@uwa.edu.au

**Emotion Science**

Emotion. What is it? This specialist topic will look at what emotions are and how they might differ from moods and feelings. We will discuss how people display emotion, particularly via the face but also by the body and voice. In addition to examining emotion in everyday life, we will also examine a variety of disorders in which emotion processing is disrupted. The seminar series will draw from a wide array of research from psychology and neuroscience. The research project will allow students to investigate a novel question in emotion science, introducing some of the techniques used to measure emotion and providing experience in conducting a research in this field.
The Art of Interviews

Job interviews are by far the most often used instrument to determine an individual’s suitability for a job; a simple interview is conducted for even the most basic jobs. Research has shown that job interviews can predict future work performance as long as they are semi-structured. However, most interviews remain unstructured and completely fail to identify the best workers. On the one side, this is due to the fact that humans make terrible interviewers. We are plagued by a large number of biases and use heuristics that severely limit our effectiveness. On the other side, the interviewees are slippery targets. They try to manage our impressions by exaggerating, hiding the truth, or sometimes flat-out lying.

During this course you will learn which factors affect the effectiveness of interviews and train to conduct a good interview. Among other things we will touch on how our biases affect the answers that interviewees give us, how our biases reduce effective hiring, and how impression management limits our ability to identify the best applicant. During the tutorial the group you will design an interview protocol and rating scheme. Subsequently you will practice using this protocol and collect data with this protocol. Finally, we will assess if the interviewees’ impression management inflated their interview scores.