PSYC3310 TOPIC DESCRIPTIONS

Topic 1 (Seminar: Friday 1100 - 12:45; Tutorial: Wednesday 0900 – 1045)
Seminar leader: Dr Allison Fox | Phone 6488 3571 Email allison.fox@uwa.edu.au

Performance Monitoring and Cognitive Control
Higher-order cognitive processes falling under the umbrella term ‘executive functioning’ contribute to our ability to monitor performance and adjust behaviour to achieve optimal levels of functioning. This domain is often impaired following insult to the brain and neuropsychological tests assessing executive functioning typically measure abilities such as hypothesis generation, planning, cognitive flexibility, susceptibility to distracting information and decision-making. During the seminar series, students will evaluate research highlighting the nature of executive dysfunction in neuropsychological conditions. 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: Friday 1300 - 14:45; Tutorial: Wednesday 1100 – 1245)
Seminar leader: Dr Allison Fox | Phone 6488 3571 Email allison.fox@uwa.edu.au

Performance Monitoring and Cognitive Control
Higher-order cognitive processes falling under the umbrella term ‘executive functioning’ contribute to our ability to monitor performance and adjust behaviour to achieve optimal levels of functioning. This domain is often impaired following insult to the brain and neuropsychological tests assessing executive functioning typically measure abilities such as hypothesis generation, planning, cognitive flexibility, susceptibility to distracting information and decision-making. During the seminar series, students will evaluate research highlighting the nature of executive dysfunction in neuropsychological conditions. 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 3 (Seminar: Monday 1200 - 1345; Tutorial: Monday 1400 – 1545)
Seminar leader Dr Jason Bell | Phone 6488 3231 jason.bell@uwa.edu.au

Biases in the Processing of Female Body Shapes
In general, individuals with eating disorder symptoms show attentional biases and/or approach and avoidance tendencies to body shape and weight-related information. It has been proposed that these cognitive biases may serve to maintain and/or exacerbate eating disorder symptoms, given that such preferential processing reinforces concerns regarding shape and weight. For example, research has shown selective attention towards negative shape stimuli (e.g., word stimuli such as ‘fat’ or negative shape pictures such as large thighs) in individuals with high levels of eating disorder symptoms. In this course we aim to gain a better understanding of how these cognitive biases differ in healthy individuals, by investigating biases in the processing of female body shapes in healthy young adult females. Example projects likely to be run by students in this course include: 1) examining attentional biases to thin versus obese female body shapes; 2) exploring approach and avoidance tendencies towards thin versus obese female body shapes; 3) examining the causes and consequences of misperceiving body size.
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.

Topic 5 (Seminar: Wednesday 1100 - 1245; Tutorial: Thursday 1100 – 1245)
Seminar leader Dr Simon Farrell | Phone 6488 3272 simon.farrell@uwa.edu.au

Reward, uncertainty, and memory
This specialist topic will look at how we learn from experience: particularly, how we learn what factors predict good (rewarding) outcomes, and how we use that knowledge to plan and make predictions about future events. We will also look at how reward impacts on episodic memory, and how actual or anticipated reward can improve memory for single experiences. In the laboratory component, we will run behavioural experiments that examine how attaching values to memoranda might determine the strategies people use to search episodic memory.
Topic 6 (Seminar: Monday 1000 - 1145; Tutorial: Monday 1200 – 1345)
Seminar leader Dr Ben Grafton | Phone 6488 2690 ben.grafton@uwa.edu.au

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.

Topic 7 (Seminar: Thursday 1500 - 1645; Tutorial: Tuesday 1600 – 1745)
Seminar leader Julian Basanovic | Phone 6488 8065 julian.basanovic@research.uwa.edu.au

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 favour 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.
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.

Individual Differences in Working Memory and Cognitive Abilities

Do you Sudoku? Why is it that some people are better at this mind-bending game than others? It is likely due to individual differences in working memory ability. Working memory is an active memory system that underlies many of the cognitive tasks that we do everyday. Increasingly, educational psychologists and other health professionals are recognizing the importance of working memory. In typically developing children and adults, working memory has been linked with educational achievement, higher-level executive skills and fluid intelligence. In atypical development, working memory impairments have been associated with a failure to progress at school, ADHD, dyslexia, and even schizophrenia in adults. Understanding the factors that contribute to working memory performance is essential if we are to understand the cognitive bases of these disorders. In this seminar series, we will review some of the recent findings in the working memory literature and discuss the role that working memory plays in educational achievement and atypical development. In the laboratory series, we will design an experiment to investigate some of the factors that contribute to working memory and in particular, the process of consolidating information into working memory.
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.

Topic 11 (Seminar: Thursday 1300 – 1445; Tutorial: Friday 1300 – 1445)
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.

Topic 12 (Seminar: Monday 1400 - 1545; Tutorial: Thursday 1600 – 1745)
Seminar leader Dr Mark Hurlstone | Phone 6488 1131 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 fails 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.
Political Psychology
It is well established that left-wingers and right-wingers polarize on an array of issues, ranging from cultural matters to economic concerns. But why do people disagree so strongly over the ideal nature of society, and how do they come to prefer one political ideology or political party over another? In this specialist topic we will explore evidence suggesting that variability in pre-existing personality, motivational and moral differences can lead people to gravitate towards particular ideological positions more readily than others. We will explore how these different ideological predispositions can cause political divisions over issues where the scientific evidence is settled, such as climate change and vaccination. We will also examine the dynamics of mass political behaviour such as voting, collective action, the influence of political communications and social justice. The laboratory classes will focus on applying insights from political psychology to further understand the structure and psychological underpinnings of political attitudes.
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 favour 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.