Supervisors
Dr David Carmel
Dr Nic Chevalier
Prof Catharine Gale
Prof Wendy Johnson
Dr Pete Lamont
Dr Billy Lee
Dr Michelle Luciano
Dr Sarah MacPherson
Dr Adam Moore
Dr Alexa Morcom
Dr René Möttus
Dr Antje Nuthmann
Prof Martin Pickering
Dr Hugh Rabagliati
Dr Patrick Sturt
Prof Caroline Watt
Dr Alex Weiss
Dr Sue Widdicombe
Dr David Carmel

1) Does culture affect perception?

It’s a pretty common idea: Your culture affects how you see the world. But is it true? What does the actual evidence say? When thinking about cultural influences on perception, it’s important to distinguish between perceptual and post-perceptual effects: It could be, for example, that people from different cultures would perceive a visual scene identically, but their different cultural backgrounds would cause them to focus on different aspects of the scene. This would be a post-perceptual effect, and there is a lot of evidence that this happens. But there are also claims that culture can affect perception itself – for example, that people from different cultures experience certain visual illusions differently. Do such claims hold up under scrutiny? What dimensions of culture seem important in influencing perception? And what further research is required to substantiate claims of both perceptual and post-perceptual effects?

References


2) How do people decide who and what has a mind?

We live in a universe filled with other minds. At least, we assume we do. That’s a pretty hefty assumption, considering we each have only a single data point (our own mind) providing evidence supporting the existence of minds. Furthermore, that single data point is not the same as anyone else’s. Yet we are all hard-wired to attribute mindedness to a variety of creatures in the world around us – in fact, not doing so is considered a substantial deficit. We will never be able to verify our hunches, so what does published research tell us about how people decide what sorts of things have minds? What are the criteria that people use for mind attribution, and what behaviours lead people to conclude that the creature displaying them has a mind? And if we were to build machines that displayed these behaviours, would people conclude that they have a ‘real’ mind?

Reference


Dr Nic Chevalier

Executive function in childhood

You would review one of the following topics related to childhood executive functioning (i.e., the cognitive processes that underpin goal-directed behavior). As the amount of research that has been conducted varies substantially across these topics, your approach should be adapted to the specific topic you pick.

1. **Executive function and theory of mind: what have we learned?**

Both executive function and theory of mind (i.e., children’s naïve theory of their own and others’ mental functioning, including understanding and attribution of mental states) undergo major changes in early childhood. Are these seemingly similar developmental trajectories coincidental or are these cognitive abilities intrinsically related? Do their relation change throughout childhood? What may account for such a close relation?

Beginning references


2. **What are the neural correlates of executive function in childhood?**

A broad neural network in which the prefrontal cortex (PFC) plays a prominent role supports executive function. Given its prominent role in adulthood EF and the fact that PFC is one of the brain regions that take the longest to develop (mirroring EF at the cognitive level), PFC development is commonly assumed to underpin EF progress throughout childhood. What empirical evidence supports this claim? Do the neural correlates of EF change throughout childhood and, if so, how?

Beginning references


Attitudes to ageing and health outcomes

How individuals view the process of getting older and their expectations of ageing may have implications for their health. There is evidence that having a more negative attitude to ageing may be linked with increased later risk of poorer mental health, poor physical function and earlier death. The aim of this review would be to assess the literature on perceptions of ageing and health outcomes.

Starter references


Prof Wendy Johnson

1. Where in the brain and what is intelligence?

References


2. What is unique about human intelligence in the animal world?

References


**Critically thinking about critical thinking**

Critical thinking is essential in Psychology, but what is critical thinking? In much of the psychological literature, it is about avoiding bias, and the rigorous application of scientific methods. For others, it is about challenging the very idea of bias-free knowledge, and questioning the assumptions on which scientific methods rest. In this literature review, students will consider these divergent views about what counts as critical thinking, the ways in which they differ and the extent to which they do.

**References**


Dr Billy Lee

1. Culture shock and cultural integration How are people affected by transitions to new living situations such as after emigration?

Review literature on migration or studying abroad. Focus on psychological factors such as mental health, well-being, culture shock, cultural identity, and cultural bereavement. You should identify a particular population or national group such as Chinese migrants to Britain.

References


2. Psychology of the "talking cure"

What are the psychological processes underlying the talking therapies? For this review you may identify a particular therapeutic model; a particular therapeutic process e.g. transference, projection, treatment resistance; or other issue significant to counselling and psychotherapy e.g. concepts of distress, client or therapist factors, counselling special populations.

References


Dr Michelle Luciano

Why do communication disorders (e.g., language impairment) often overlap with other developmental disorders, such as ADHD?

The co-occurrence of communication disorders with other developmental (e.g., attention deficit hyperactivity disorder) and/or psychiatric (e.g., depression) disorders has been documented in many studies. This comorbidity can arise by various mechanisms, including shared genetic and/or environmental risk factors, a causal relationship between the disorders (e.g., poor reading skills leading to inattention in a class setting), or the co-occurrence being due to each disorder’s more substantive association with a third disorder (and thus arising as a statistical phenomenon). This review will critically analyse the evidence supporting these different mechanisms.


Dr Sarah E. MacPherson

Dual-tasking versus multi-tasking – Is there any evidence for dissociations between these abilities in patient groups?
The terms “dual-tasking” and “multi-tasking” are often used interchangeably in the literature, when in fact they involve different cognitive processes. In this literature review, students should review some of the dual-tasking and multitasking studies. Students should carefully look to examine whether there is any evidence that dual- and multi-tasking abilities are differentially impaired in distinct patient groups and whether the brain regions that play a role in dual- and multitasking differ.

References
Abductive Inference: Explanation and Reasoning

A fundamental aspect of human cognition is the seeking for, evaluation of, and generation of explanations. Abductive inference is the process of inferring, or proposing, explanations for states of affairs. There has been significant research on this topic, and several models proposed to explain how the process works. Students will survey the experimental and theoretical literature with the aim of providing a structured overview and critical assessment of the alternative models on offer.

Starting References:


Dr Alexa Morcom

1. True and false memory: the role of meaning.

Forgetting is difficult enough, but what if we can’t trust the memories we can recall? A large literature now shows that people are prone to false memories and current research focuses on understanding the factors that tend to increase or reduce them.

A critical factor in many false memories is relatedness between the events really encountered and the incorrect events falsely remembered. For example, in the classic Deese-Roediger-McDermott paradigm people falsely recall or recognise having just seen the word SLEEP when NIGHT, DOZE, REST, SNOOZE (etc) were studied. Alternatively, a picture of a cat may be falsely recognised when a picture of another cat (as opposed to a dog) has been studied. But there is surprisingly little agreement on the nature of the relatedness responsible for these errors. According to the leading Activation-Monitoring account, false memory is driven by associations between items in memory (e.g. BARK and DOG; Roediger III et al., 2001). But the alternative, Fuzzy Trace Theory proposes that it is meaningful similarity between items sharing many features (e.g., CAT and DOG) that really matters (Brainerd & Reyna, 2002).

This distinction matters for several reasons: not only is it interesting to understand how memory works and how it can mislead, if we can determine whether true and false memory are subject to different influences we may discover ways to optimise memory accuracy. A few studies have started to examine the role of meaning more precisely in true and false memory (e.g., Montefinese, Zannino, & Ambrosini, 2014), and some have proposed it may have a special application to the study of cognitive ageing (Umanath & Marsh, 2014). In this review you will examine evidence for the particular influence of meaningful similarity in false memory, contrasting it where possible with true memory. A special focus on cognitive ageing is an option.

Selected references


2. Measuring cognitive effort in ageing

Craik’s longstanding theoretical account of cognitive ageing proposes that that older adults have difficulty initiating certain effortful cognitive processing, for example recalling from memory without external cues (for recent review see Lindenberger & Mayr, 2014). It is also proposed that they benefit more than young adults from environmental support from external cues. The self-initiation impairment is attributed to a reduction in attentional resources. The
theory attempts to account for older adults documented difficulties with cognitive control in terms of the control being possible, but more effortful or costly.

One way to approach the problem is to ask whether cognitive control is more costly, or effortful, for older adults. A well-established index of cognitive effort in young adults is an increase in pupil size, associated with activation of the sympathetic nervous system. This raises two related questions. First, how good a measure of effort is pupil size? Does it measure effort in a way that is relevant to understanding how effort is exerted in cognitive control (see (Westbrook & Braver, 2015)? Second, many aspects of physiology change with age and it is important to establish that measures can be interpreted in the same way in young and older adults. This is controversial in the case of pupil size measurement (pupillometry) (Piquado, Isaacowitz, & Wingfield, 2010; Hess & Ennis, 2014). In this review you will examine the potential for using pupillometry to study failures of cognitive initiation in healthy ageing. Or, if you prefer, you can focus on effort and cognitive control in young adults.

Selected references


Dr René Möttus

Genetic influences are known to ubiquitous for just about any characteristic that humans differ in. But so are environmental influences. Do we know any more than that?


Imagine not being able to read because you cannot see well enough. This happens when central vision is damaged, e.g., due to macular degeneration (MD). The subjective experience is a blurred spot in the centre of vision that is becoming gradually worse, making it difficult to read and recognize faces. While the juvenile form of MD is rare, age-related MD is the main cause of diminished visual acuity in the elderly. One way to investigate the effects of the disease on everyday behaviour like reading, visual search and scene perception is to simulate the condition in normally sighted individuals using gaze-contingent moving masks. In addition, clinical research has examined MD patients to describe their performance deficits and strategies for the (partial) compensation of their impairment. The purpose of the literature review is to summarize and critically evaluate recent research on the topic.

References


Prof Martin Pickering

1. Do people predict what other people are going to say?
Much research in psychology of language suggests that readers and listeners interpret language as soon as they encounter it. But recent work suggests that they may try to "get ahead of the game" and predict what they are likely to encounter. Do they do this, and if so, how?

References

2. Why are people so successful at holding conversations?
Dialogue "should" be harder than monologue, because the interlocutors have to switch between speaking and listening, decide when to speak, respond to their interlocutor on the fly, and so on. But it does not seem to be. Is it because interlocutors somehow share representations?

References
Dr Hugh Rabagliati

Do we have to perceive something to understand?

Perceiving and understanding are closely linked: It seems absurd to imagine that we could understand, for instance, a visual scene or a sentence without being consciously aware of it. But over the last few decades, there have been a number of claims that people can understand scenes, words, sentences, and other complex stimuli, without being aware of that they are perceiving it. Some of these claims are outlandish (e.g., subliminal advertising), but others are backed by scientific evidence. We will weigh up this evidence, with particular reference to a cutting edge method called continuous flash suppression.

References


Dr Patrick Sturt

1) How much information is extracted from words beyond the current fixation in reading?

Current models of eye-movement control make different predictions about how much information people can extract from words that are currently not being fixated during reading. For example, if you are currently fixating the word “green” and the next word is “book”, to what extent do you extract information about the meaning of “book”, or about its sound, or the visual characteristics of the written word? The answer to this question has important implications for our understanding of how attention is allocated and shifted, but there is still a fair amount of controversy in the literature. Your task would be to make a survey of the relevant literature, focusing on a particular domain (for example, meaning), looking at the methods that have been used to examine the issue, and evaluating the literature.

There is a wide range of literature on this topic, but the following paper would be a good starting point:


2) Relations between language processing and other cognitive domains

Cognition often requires the processing of structural information. For example, to understand a sentence, we need to process the relations between its component words and phrases; to solve a complex mathematical equation, we need to solve the simpler mathematical expressions of which it is composed; or to appreciate a piece of music, we need to process its rhythmical, harmonic and melodic structure. What are the relations between these different instances of structural information processing across cognitive domains? Recent work using brain imaging as well as various behavioural methods have uncovered some overlap in the way that processing is carried out by the brain in these different areas. Your task would be to review this literature, and evaluate its consequences for theories of cognition.


3) Embodiment in Language Comprehension

Embodied theories of language comprehension claim that motor systems that are involved in action also play an important role in language comprehension. In this review, you would critically evaluate the literature on embodied language processing, drawing conclusions about the way that language is represented in the brain.


Dr Alex Weiss

I am happy to supervise literature reviews that cover topics related to personality, animal behavior, and overlap. Possible topic questions include the following:

1. How are we to best characterize the history of personality? Is there an underlying Kuhnian paradigm or might other descriptions be better suited?

2. What are the evolutionary bases for personality variation in humans and animals?

3. How do personality traits get ‘into our skin’ and lead to differential health outcomes?

4. Is the observation of behavior the only legitimate way to study animal and human psychology?

5. Is human personality development a biological process, shaped by the environment, or both?
What's happened to interpersonal expectancy effects in behavioural research?

In 1963, Robert Rosenthal published a paper that became a landmark in psychology. He demonstrated that researchers can create self-fulfilling prophecies in laboratory experiments, by subtly influencing experimental participants to conform to the experimenter's expectations.

The research topic boomed. Hundreds of studies later, Rosenthal looked back over 30 years of work into expectancy effects. Since then, another two decades have elapsed. What is the latest picture for this topic?

In their literature review, students will present an update on the interpersonal expectancy effects literature, reporting on developments between 1994 and 2016. They can opt for a wide overview, or might focus on an area that interests them, such as expectancy effects in applied situations (classroom, healthcare, law enforcement, for instance), in laboratory settings, or methodologies to avoid or control for experimenter effects.

References


Dr Sue Widdicombe

1. Accounting for discrimination

Discursive psychology research suggests that, when interviewed, members of the majority ethnic group may play down, deny or justify discrimination, while members of ethnic minority groups deny experiencing prejudice or violence in their own case. How have researchers accounted for these findings? Do these sorts of observations extend to other forms of discriminatory talk? Do they extend beyond the interview context? What implications do these findings have for ways of tackling discrimination, given that they work to render it ‘invisible’? This review will consider discourse analysis/discursive psychology studies of victims’ and dominant group members’ talk in various contexts.

Starting references:


2. Attitudes towards refugees and asylum seekers: what insights have social psychologists produced?

Civil and international conflict has given rise to huge increases in the world population of asylum seekers and refugees. However, ‘as the world refugee population increases, attitudes towards refugee claimants in host nations have become less welcoming’ (Louis et al, 2007:53). This review will ask what insights the social psychological literature on attitudes towards refugees and asylum seekers has produced in understanding and/or improving attitudes among citizens of the host nations.

Starting references:

