Module Title and Code

The Psychology and Neuroscience of Spontaneous Thought: PSU34760

Lecturer(s)
Paul Dockree

Contact Hours
One semester: 11 lectures; 103 hours independent study

ECTS Value
5 ECTS (= 125 hours of student time)

Rationale and Aims

Rationale:

Mental experience is not always anchored to the present moment; instead, when the constraints of cognitive control are released, the mind is free to transition from one mental state to the next. Spontaneous thought encompasses a range of mental phenomena that are an intrinsic part of the human experience. These include mind-wandering, daydreams, vivid fantasy, inner speech, creative insights and the nightly manifestations of dreaming. There are also negative ramifications of an excessively wandering mind including distractibility in disorders of attention, obsessive thoughts in OCD, uncontrolled ruminations in depression, and disinhibited traumatic imagery in PTSD. This module will ask, what are these various unconstrained modes of thought? How are they generated and instantiated in the brain? Why does the mind and brain devote time and energy to generating these spontaneous mental states? Moreover, this course will consider how we can guard against unwarranted mind-wandering by reflecting on techniques such as meditation, mindfulness and their philosophical origins, and how altered states of consciousness can shed light on the content and dynamics of spontaneous thought.

This module aims to:

1) Introduce theoretical perspectives concerning how we define and elucidate the nature of spontaneous thought and mind-wandering

2) Highlight a range of rapidly developing interdisciplinary approaches to investigate the neuroscience of spontaneous thought via brain imaging, electrophysiological studies and experience sampling in the laboratory and in daily life.

3) Explain how clinical conditions can give empirical insight into the nature and utility of spontaneous thought

4) Evaluate how spontaneous thought is augmented by creative thinking, culture, environment and psychopharmacology.

5) Discuss the role of contemplative traditions underpinning meditation, mindfulness and metacognitive strategies as a means of catching the wandering mind and enabling the individual to flourish.

For whom is the module intended?
JS/SS/PCC1/PCC2/VS/possibly neuroscience students (Delivered biannually)

How does it fit in to the academic programme?
This module fits under the two general areas of 'Biological' and 'Cognitive' as are required to be covered by the professional accreditation body, Psychological Society of Ireland.

Is it mandatory or optional?
Optional

Are there prerequisites?
For visiting students: Introduction to Psychology

From a teaching point of view, what are the intentions of the lecturer?

To introduce students to theoretical and conceptual approaches to the study of spontaneous thought; to highlight novel methodological designs required to investigate these unconstrained cognitive processes in the laboratory and in daily life; to encourage students to evaluate the benefits and risks of spontaneous thought in neurologically healthy and clinical populations; to promote a synthesis of understanding of mind-wandering from cross-disciplinary standpoints; to enable students to reflect on different self-initiated strategies for augmenting spontaneous thought and the role of environment, context and culture in shaping mind-wandering.

Course Content

The module will consist of 11 lectures which will convey novel cross-disciplinary perspectives from neuroscience, psychology, philosophy, meditative practices, education and clinical research to gain insight into a broad class of mental phenomena collectively described as spontaneous thought.

1. *Introduction to the emerging science of spontaneous thought*
2. *The brain dynamics of spontaneous thought*
3. *Clinical neuropsychological insights into Spontaneous Cognition*

4. *Meaning, creativity and spontaneity*
5. *Dysfunctional alternations of spontaneous thought*
6. *Mind-wandering in the classroom*
7. *Cultural and Pharmacological influence on unconstrained thought*
8. *Sleep phenomena and spontaneous thought*
9. *Hearing voices and hallucinations*
10. *Catching the wandering mind: Meditation and Mindfulness*
11. *Review and Exam preparation Lecture.*

Indicative Resources

Reading:

There will be no core textbook for this module. Original research articles and review articles from journals including, *Psychological Review*, *Consciousness and Cognition*, *Neuropsychologia*, *NeuroImage,* and *Psychological Bulletin* will be uploaded to Blackboard on a weekly basis in advance of each lecture.

A useful review article for orientation to the topic is:

Jonathan Smallwood and Jonathan W. Schooler ***The Science of Mind Wandering: Empirically Navigating the Stream of Consciousness*** Annual Review of Psychology 2015 Vol. 66:487-518.

Useful websites linking to international labs studying mind-wandering and spontaneous thought:

- *https://themindwanders.wordpress.com*
- *https://www.sciencedirect.com/topics/psychology/mind-wandering*
- *https://labs.psych.ucsb.edu/schooler/jonathan/research*
- *http://www.christofflab.ca*

Learning Outcomes

On successful completion of this course, students will be able to:

- Describe contemporary theoretical perspectives for understanding different forms of spontaneous thought
- Describe and explain our current understanding of how the brain generates and expresses spontaneous thought

- Critically evaluate the advantages and limitations of cognitive and neuroscientific methods (e.g., cognitive paradigms, fMRI, EEG and non-invasive brain stimulation) for elucidating mind-wandering phenomena.
- Critically discuss how clinical disorders can yield important insights into the content and dynamics of spontaneous thought
- Convey knowledge and understanding of how excessive mind-wandering can be alleviated with mindfulness, meditation and other meta-cognitive strategies.
- Critically evaluate how spontaneous thought can be augmented by culture, context and psychopharmacology

Methods of Teaching and Student Learning

The format of lectures is conventional but students are encouraged to ask questions and to engage the lecturer in discussion where possible

Methods of Assessment

TBC

Evaluation

To be determined based on School policy on teaching evaluations.