



School of Psychology

PS409
PSYCHOLOGY, SCIENCE, & PSEUDOSCIENCE

Professor Brian Hughes

1.0. Logistics

Module Weighting: 5 ECTS

Lecturer: Professor Brian Hughes (brian.hughes@nuigalway.ie) (he/him)

Availability: 2BA1, 2BA7, IHDPI, Visiting students

Duration: 12 weeks

Term Dates: 6 September–26 November

Class times: Wednesdays, 5:00–6:00 p.m. (ORB214 Seminar Room) and Fridays, 10:00–11:00 a.m. (AC215)

2.0. Module description

Pseudoscience refers to a practice or body of knowledge that purports to be scientific but diverges from the quality-standards conventionally applied to science and scientists. Examples include supposedly scientific claims about telepathy, mediumship, and alternative medicine, but also many claims relating to climate-change scepticism, political conspiracy theories, and several xenophobic tropes. According to some critics, several areas of mainstream psychology can also be said to at least hover at the boundary between science and pseudoscience. In this module we consider: (a) the nature of science and pseudoscience; (b) the distinctions and overlaps between psychology and pseudoscience; and (c) the psychology of ‘evidence’ and the way people often prefer nonsense over logic. We also examine how mainstream psychologists can themselves engage in their own forms of faulty scientific reasoning when they garble concepts relating to statistics and probability, when they succumb to bias and social influence, and when they sympathise with anti-science sentiments. As a case study, we consider the way psychologists have traditionally discussed and examined so-called ‘Medically Unexplained Symptoms’. We conclude by considering how evidence-based reasoning, while humanly difficult, is critical to the well-being of the world.

3.0. Learning outcomes

Upon completion of this module, you should be able to:

- Discuss the nature and scope of pseudoscience and its demarcation from mainstream science
- Critique areas of pseudoscience that are frequently but erroneously conflated with mainstream psychology
- Critique areas of mainstream psychology that may themselves constitute pseudoscience
- Account for the psychological appeal of pseudoscience with reference to the psychology of evidentiary reasoning
- Consider the requirements for rigorous sceptical research and for the evaluation of extraordinary claims

4.0. Content

(Please note that the timeframe indicated is indicative rather than prescriptive)

Weeks 1–3: Psychology and Pseudoscience in Theory

- What is science and why is it useful?
- What is pseudoscience and why is it popular?
- The scientific nature of psychology

Weeks 4–5: Evidentiary Reasoning: Why Bad Ideas Never Fail to Prosper

- Limits on cognitive performance
- Social pressures on reasoning
 - *Religion and optimism*
- Media distortion
 - *Bias and subjectivism*

Weeks 6–8: Psychology and Pseudoscience in Practice

- Examples from the Fringes
 - *Complementary Therapies and Miracle Cures*
 - *Telepathy and Psychokinesis*
- Examples from the Mainstream
 - *Biological Reductionism and Gender*
 - *Subjective Self-Report: What Some People Say about What They Think They Think*

Weeks 9–10: Case Study: “Medically Unexplained Symptoms”--Psychology’s Argument from Ignorance

- Materialist Stigma and Mental Health
- Structural Misogyny in Psychology
- “Medically Unexplained Symptoms” and the Triumph of Eminence-Based Medicine
- Psychologists Behaving Badly

Weeks 11–12: Why Does It Matter? The Ethics of Nonsense

- Cynicism, nihilism, partisanship, and the cost of misinformation
- Epistemological threats and empirical safeguards
- The ethical dimension

5.0. Reading

Expected reading:

- Hughes, B. M. (2016). *Rethinking Psychology: Good Science, Bad Science, Pseudoscience*. London: Palgrave.
- <http://en.wikipedia.org/wiki/Pseudoscience> (and linked entries)

Recommended reading:

- <https://thesciencebit.net/>
- Schick, Jr., T., & Vaughn, L. (2019). *How to think about weird things: Critical thinking for a new age*, 8th edition. Boston: McGraw-Hill
- Additional readings will be prescribed by the lecturer and provided on Blackboard

6.0. Assessment

This module is 100% continuously assessed. That is, there is no end-of-semester examination. Assessment will comprise four assignments/exercises, which are summarised below. A detailed description of all assessments will be presented separately.

1. Comment paper (20%)

Indicative word count: 1,000 (c. 3 pages)

Description: A brief paper written on a topic selected from a list provided.

Instructions provided: Week 2

Due date: 29 October 2021 (end of Week 8)

2. Research paper (30%)

Indicative word count: 1,500 (c. 5 pages)

Description: A paper written on a topic selected from a list provided.

Instructions provided: Week 3

Due date: 10 December 2021 (two weeks after classes end)

3. Message board contributions (10%)

Description: Posts contributed to message board discussions on set topics.

Indicative word count: 50 to 100 words per posting; contributions to four discussions required

Instructions provided: Week 4

Discussion threads launched: Week 4

Due date: 26 November 2021 (end of week 12)

4. Reaction exercise (40%)

Indicative word count: 2,000 (4 x 500-word responses)

Description: A set of four propositions will be posted on Blackboard towards the end of the teaching term. Students will write and submit scholarly reactions to all four propositions.

Completion of the exercise will be required within 24 hours.

Instructions provided: after Week 9

Due date: Within 24 hours of posting.