

Critical thinking

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September 25, 2017

Psychology is a mentally demanding science subject; these Critical Thinking lectures are here to help you face that mental challenge and succeed! More specifically, the purpose of these lectures is to help you think logically and rationally about the world around you, and about your own — and others' — beliefs about that world. Critical Thinking is *not* about being so skeptical you never take any action. It is not about believing everything to be false until it is proved to be true, and it is not about believing everything to be true until it is proved to be false. It's about making the best decisions on the basis of the evidence available, and appreciating when you need to collect more evidence.

Lectures

We will cover the following three topics across four two-hour lectures:

Science, truth, and honesty What does it mean to say something is true? Scientific and unscientific claims. Relativism. Dishonesty in science. The replication “crisis”. The culture of modern science.

Evaluating arguments Why do people make biased claims? Common forms of weak argument. An infallible procedure for argument evaluation.

Evaluating experiments Correlation, causation, and the Experimental Method. Common errors in experimental design. The myth of statistical control. Evaluating an empirical article.

A note on slides, notes, and recordings

It is a basic principle of open science that all information should be stored in open formats. This ensures that access is not restricted to those who own a particular piece of proprietary software. The file formats I use in this module are PDF (for slides and notes) and OGG (for audio recordings). The free and open source Firefox web browser supports both these formats. Alternatively, look here for information on other options for opening these files:

PDF: https://en.wikipedia.org/wiki/List_of_PDF_software#Viewers

OGG: [https://en.wikipedia.org/wiki/Wikipedia:Media_help_%28audio_and_video%](https://en.wikipedia.org/wiki/Wikipedia:Media_help_%28audio_and_video%29)

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