

Psychology of the Unscientific

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DESCRIPTION

For well over a century, science has rapidly expanded to become the centerpiece of most human knowledge, and has been used to answer deep questions in physics, chemistry, biology, and psychology. But what kind of a thing is science? Can we use science to examine and meaningfully understand any phenomena? Or are there limits to what can be learned by doing science?

In this course, we are going to examine these questions by asking how psychologists study topics that would traditionally be considered inappropriate for scientific inquiry. Psychology has the rigour of traditional sciences (e.g., physics, chemistry, biology), but is also a very new science, and one where many fundamental questions remain wide open. Furthermore, even the central topic in psychology - the study of the human mind - has once been thought to not be the privy of science.

Throughout the next six classes, we are going to explore several case studies of "unscientific" topics. These topics are not "unscientific" in the sense that they have been questioned by science, but rather "unscientific" in the sense that they have (at least traditionally) been thought to have elements that science, by definition, cannot study. For example, we are going to examine the case study of human consciousness (Class #2), an example of a phenomena (along with dreams) that is only experienced by a single person. This poses a challenge for the traditional scientific method, which relies on observable, third-person observations of data. As another example, we will discuss Extrasensory Perception (ESP; Class #4), which relies on the idea that some information is transmitted via non-physical means. Once again - this poses a challenge for the traditional scientific method, which depends on building physical models of the world.

Throughout this class, we are going to examine several such case studies. We are going to ask questions like: Can psychology study this phenomena? If so, how? Is it doing a good job? If

science cannot answer every question we'd like to ask - what can? What is the role of science in society more broadly?

Throughout the course, you will read and learn about experiments done in psychology on all these topics. By the end, I hope that you not only take away an appreciation for how scientists wrestle with very hard topics, but also to understand what science can and cannot do, and to be a strong critical thinker and consumer of science.

A SMALL WARNING

Several topics we are going to discuss in this class are controversial. For example, in Class #5, we are going to look at how psychologists study religious beliefs. It is extremely important that we remain mature, respectful, and fair not only to the scientists whose work we'll be reading, but also to other students taking the class. This class is not about proving or disproving the existence of various case-studies, like ESP, or the meaning of dreams, etc., but is about asking whether psychologists can study these phenomena in the first place, and what they have to say about them.

Johns Hopkins University is a community committed to sharing values of diversity and inclusion in order to achieve and sustain excellence. We believe excellence is best promoted by being a diverse group of students, faculty and staff who are committed to creating a climate of mutual respect that is supportive of one another's success. Through its curricula and clinical experiences, we purposefully support the University's goal of diversity, and in particular, work toward an ultimate outcome of best serving the needs of students. Faculty and candidates are expected to demonstrate an understanding of diversity as it relates to planning, instruction, management, and assessment.

CLASSROOM ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

If you are a student with a documented disability who requires an academic adjustment, auxiliary aid or other similar accommodations, please contact The Office of Student Disability Services at studentdisabilityservices@jhu.edu, call 410-516-4720 or visit 385 Garland Hall.

ETHICS

The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

Report any violations you witness to the instructor.

STRUCTURE AND GRADING

This is a pass/fail course. Passing this course depends on three things:

- Attendance (i.e., come to class!)

- Discussion (i.e., ask questions!)
- Reflection Papers (see below!)

If you do each of these three things, you are guaranteed to pass. If you fail to do any of these three, you will fail.

Attendance

Attendance is incredibly important for this course. Since it depends so much on discussion and critical thinking, it will be extremely hard to do well in this course without being here for every lecture. If you must miss a lecture for a reason, you must inform me. If you are expecting to miss more than one lecture, I recommend taking the course another time.

To pass the course, you must attend every class. If you have a legitimate reason for missing a lecture, contact me ASAP.

Participation

The topics we discuss in this class are not the standard bread-and-butter topics in psychology. The only way to learn and appreciate controversial material is to think critically about it. As such, although much of it is styled as a lecture, the course (and your ultimate grade) will heavily depend on participation and discussion. I will begin every class with a lecture, but we will reserve significant amounts of time for questions and discussions. Please feel free to ask questions at any point.

Towards the end of every lecture, we will open the floor to discussion. During this time, we will try and engage in bigger-picture questions about the experiments we've discussed. I encourage you to think about ways in which you may want to test aspects of the case study, and what you think the scientific discoveries tell us about the case study (if anything).

You can participate in one of three ways. First, you can ask questions or contribute to in-class discussion. Second, you can write questions or comments on the flash cards you will receive every day. Third, you can contribute to online discussion on Blackboard. Any of these three count towards your participation.

To pass the course, you must contribute in 4/5 classes in any one of the four methods above.

Reflection Papers

The things we will learn in this course are not simple facts. As such, the best way to test you on the course material is not with an exam, but with giving you an opportunity for critical thinking. A reflection paper is a (very short) report on what you thought about one or more of the articles you read. It is not meant to be a summary of the article, but rather what you took away from it, and what it made you think about.

Reflection papers do not have to be extremely formal! They are meant to have you reflect on what you read and to critically evaluate it. In each of the reflection papers, you can answer questions like: (1) How would you study this particular case study? (2) Do you agree with the methods of the experimenter? (3) Did they do a good job? (4) What are your thoughts on the case study after reading the article?

Remember - reflection papers *are not summaries of articles you read!*. They are some thoughts you had while reading the article. Also - you can use your reflection papers to fuel your questions for in-class discussions.

Each reflection paper should be no more than a page (single spaced). They are not very formal - you can even write them in bullet-points if that helps you articulate your thoughts better. Throughout the course, you must hand in 2 reflection papers. Since there are five classes, that means that you can choose which 2 out of the 4 lectures you want to hand in a paper for. You are welcome to hand in more than 2 papers if you wish, but only 2 papers are required. Papers are due at the start of each class, and cannot be submitted late.

If you hand in papers of especially low quality (e.g., if you hand in a summary of the article), then you will get a 0 for that paper. You will then have to submit a fourth paper to make up the 0. This is one of the many reasons that you should not wait until the last three lectures to start handing in papers!

To pass the course, you must hand in at least 2 reflection papers.

WHEN ARE REFLECTION PAPERS DUE?

Every reflection paper is due *at the start of class – no exceptions!*. Since you can hand in 3 papers for 5 lectures, you have some flexibility in which papers you wish to hand in. As a result, I cannot accept late papers. There will be no exceptions to this!

READINGS

There is no textbook for this course (as no textbook on these topics even exists!). Instead, we will be reading primary source articles. These are available on Blackboard in PDF format.

Doing the readings before class is critical. I have selected readings that are as packed with as much content in as few pages as possible. These readings often provide a nice introduction into the new case study we will be exploring. Sometimes I may lecture with the assumption that you did the readings. So - please do so - or you may get lost during the lecture!

Every course has additional optional readings that are there for additional background, or for following up on topics you may have especially enjoyed. Optional readings are exactly that - optional - and you should not feel any pressure to read them if you are not interested or don't have time.

SCHEDULE

#1: Introduction; What is Science? (January 14th, 2013)

Required None

Optional www.plato.stanford.edu/entries/pseudo-science/

#2: Consciousness; Dreams (January 16th, 2013)

Required Dietrich (2007) Introduction to consciousness. (*Chapter 1*)
Blagrove (2009) Dreaming - motivated or meaningless?

Optional Dehaene & Naccache (2001) Towards a neuroscience of consciousness
(*Pages 1-12*)

#3: Free Will (January 18th, 2013)

Required Libet (1999) Do we have free will?

Optional Vohs & Schooler (2008) The Value of Believing in Free Will
Haggard et al. (2002) Voluntary action and conscious awareness

#4: ESP (January 23rd, 2013)

Required An Introduction to Meta-Analyses
Bem & Honorton (1994) Does psi exist?

Optional Bem (2011) Feeling the future
Wagenmakers et al. (2011) Comment on Bem (2011).

#5: Religion and Morality; Art (January 25rd, 2013)

Required Bloom (2012). Religion, morality, evolution.
Shimamura & Palmer (2012) Aesthetic science

Optional Edge Debate: edge.org/conversation/god-vs-science
Hamlin et al. (2007) Social evaluation by preverbal infants
www.plato.stanford.edu/entries/religion-science/
Bloom (2006) Religion is natural.