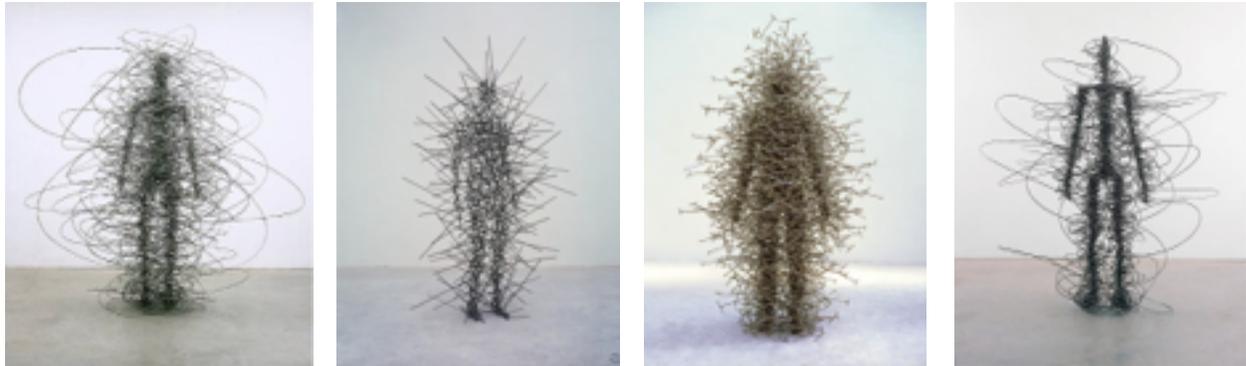


PSYCH4850B

Human Biology, Evolution and Behaviour: a Biocultural Approach

Wednesdays 15:00 - 17:50, U-Hall: C610



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What will we be doing?

Evolutionary approaches to human behaviour and psychology often come in for criticism. Conceptually, they are argued to be both deterministic and reductionist, and empirically, they are said to be weak, and thus represent poor science. But are such criticisms justified? In order to answer this, we need to have a good understanding of (a) what science actually is and (b) how evolutionary theory applies to humans and (c) the full range of evolutionary approaches on offer. In this course, we will attempt to gain a better understanding of these issues, and develop an understanding of human behaviour as fully 'biocultural'. We will tackle topics that have relevance to modern society, and ones that are frequent sources of controversy and debate, including race and health differentials, fertility and assisted reproduction, obesity, childbirth practices, the nature of childhood and sex-testing in sports. In all cases, we will assess the evidence on offer, and engage in 'myth-busting' where needed. By the end of the semester, you should have gained a clear idea of what scientific analyses entail, be able to identify when poor evolutionary theorizing is being used, and construct a well-supported argument for or against a given position or idea.

How will we do this?

We'll do this by reading, thinking and talking (a lot). You will have to come to class prepared, and you will have to be prepared to do the reading. You will not be able to wing it. If you don't do the reading, you cannot succeed in this class. The whole aim is to help you gain skills of critical analysis and demonstrate your ability to read closely and understand the arguments presented in the papers. If you don't read the material, you simply will be unable to do this.

The course will combine lectures and seminar-style discussions. Each week, the first hour of class will spent on a discussion of the assigned readings. You will be split into two (randomly assigned) groups, whose composition will change every two weeks over the semester. One group will discuss the papers with me and one with Jess, and then we'll swap over for the following week, so that each group gets to discuss an issue with each of us. Group composition will be reassigned, so everyone is shuffled around again and so on through the semester. In this way, you will get the opportunity to discuss things in a smaller group of people, and interact with everyone else in the class. These discussions will address a particular question that will be posed for you by us. For the second hour of class, we'll then reconvene as a larger group, and debate the differing viewpoints each group arrived at over the first hour. In the final part of class, either Jess or I will provide an overview of the issue we'll be reading about and discussing the following week, to place the readings in context and introduce the issues at stake.

What resources will we use?

We'll be making use of both a course text ("*Why I am Not a Scientist*" by Jonathan Marks, available at the bookshop) and readings from the primary literature. As you will see, the amount of reading that needs to be done varies from week to week. This is both to help you keep on top of the reading, and accommodate weeks when you'll also be preparing assignments.

How will my efforts in class be assessed?

You will be continuously assessed throughout the semester, and there will be no final exam. You will be expected to produce the following:

1. **READING SUMMARIES:** In order to ensure you stick to the reading schedule, each week you will write a short summary (half to one page, single spaced) of the chapters assigned from Marks (2009) and/or at least two of the readings from the primary literature. Reading closely and writing clearly are skills that improve with practice; this is much more important than possessing any inherent talent (assuming such a thing even exists). The more you read, and the more you write, the better you will be at both. I can say this quite categorically, and without any hesitation. So, another reason for asking you to complete these summaries is that, over the course of the semester, you will be able to see for yourselves what progress you have made, and how far you have come. If you need any help with these (or any other assignments), don't hesitate to ask; the aim is for all assessment

to be as formative as possible, rather than simply summative. You will hand in your summary at the beginning of class, and these will count for **20% of your grade on a pass-fail basis** (i.e., you must hand in a complete set to receive the grade, or else you will fail this component of the course). Although as senior undergraduates you shouldn't need any such encouragement to complete the readings, hard-won experience tells me that the time-management skills of the average undergraduate are rather under-developed.

PAPER SUMMARIES ARE DUE EVERY WEEK IN CLASS

2. SHORT WRITTEN ASSIGNMENTS: In addition to these summaries, you will submit two short essays of 1000 words max. on the topics of 1. "What is Science?" and 2. "What is Pseudoscience?" These pieces are short because they are designed to improve your skills at presenting a tight, well-focused argument. You will be given the opportunity to rewrite your essays based on the feedback you receive, and hence to improve your grade. More details on this will be given in class.

IMPORTANT: you should note that merely 'cosmetic' revisions (i.e., improvements to spelling and grammar alone, with no attempt to revise content, are unlikely to receive a higher mark). Each assignment will count for **15%** of your mark.

DUE DATES:

Assignment 1: October 14th

Assignment 2: November 4th

3. WRITTEN ASSIGNMENT ON TOPIC OF YOUR CHOICE: You will also submit a 5-page essay aimed at answering one of the following:

Why we need a biocultural approach to X

or

Why X is a myth that needs busting

where X = subject matter of your choice.

You can choose any topic you like, including those on the syllabus, but you will receive a 10% bonus if you select a topic that we do not cover in class, and where you apply your knowledge to a novel area. You will be given the opportunity to rewrite your essays based on the feedback you receive, and hence to improve your grade. More details on this will be given in class.

IMPORTANT: you should note that merely 'cosmetic' revisions (i.e., improvements to spelling and grammar alone, with no attempt to revise content, are unlikely to receive a higher mark). This will count toward 30% of your final grade.

DUE DATE:

November 18th

4. **ORAL PRESENTATION:** Finally, you will make a 5-minute presentation, followed by a two minute Q & A period, based on your third essay at the end of the semester. Presentations will take place in class time during the last two weeks of the semester. The presentation will count toward 20% of your final grade. You will be provided with guidelines for your presentation, and the criteria on which your oral presentation will be assessed, closer to the time.

**PRESENTATION DATES:
December 2nd and December 9th.**

A note on formatting for the three assignments:

Your papers do not have to conform to any specific format (e.g., APA). Simply ensure they are printed double-spaced (to aid with editing) in a sensible, legible font; that your name is clearly shown on the front page; use in-text citations of the form Author (date), and ensure that all sources used are fully referenced at the end of the paper, using this format:

Other, A.N. (date) Title of article. Journal Title Vol. No: Page numbers.

Other, A.N. (date) Title of book. Publisher, Publisher Location.

Other, A.N. (date) Title of book chapter. (Title of book, Editors), Publisher, Location.

What is the basis for grading of the written assignments?

To get an A-grade your assignment should have:

- a clear statement of the issue at hand and clear organization
- adequate support and reasoning for its claims
- be interesting and thoughtful
- show logical transitions within and between paragraphs that contribute to a fluent style of writing.
- make a cogent and logical argument
- have few, if any, mechanical, grammatical, spelling, or diction errors.
- demonstrate a command of language in a clear and direct manner.
- uses sources and examples intelligently, correctly, and fairly.

A B-grade assignment shares most characteristics of the above but:

- may have some minor lapses in organization and the development of its argument.
- may lack appropriate or adequate evidence for some of its claims.
- may contain some sentence structures that are awkward or ineffective.
- may have minor mechanical, grammatical, or diction problems.
- may be less distinguished in its use of language.
- may make some good points but not really provide any significant insights.

C-grade assignments will show the following, compared to a B-grade assignment :

- may have a weaker thesis and less effective development of ideas and examples.
- may contain some lapses in organization.
- may contain shifts in voice that make the essay harder to follow.
- may have poor or awkward transitions within or between paragraphs.
- may have less varied sentence structures that tend toward monotony.
- may have more mechanical, grammatical, and diction problems.
- is likely to be less distinguished in its handling of the topic.
- may use sources in ways that are inappropriate or awkward.

D-grade or Failed assignments are seriously flawed. They are likely to:

- have no clear thesis or central topic.
- display random organization.
- lack adequate support or specific development.
- include irrelevant details.
- fail to fulfill the assignment or be unfairly brief.
- contain major and repeated errors in diction, syntax, grammar, punctuation, or spelling.
- plagiarize. The policies governing student conduct can be found on pages 63 to 68 of the University Calendar; a useful guide to avoiding plagiarism may be found on the Library's website at <http://www.uleth.ca/lib/guides/plagiarism.asp>.

Date	Topic	Readings
September 9th	Introduction to the course	No reading
September 16th	<p>What is science? And what kind of science is psychology?</p> <p>IF there's one thing I hate it's sentences that begin "Science says..." or "We know from science...". It generates a misleading impression of scientific methods, practice and the nature of knowledge. So to begin the course, we'll have a discussion about the scope and limits of scientific approaches. Psychology, in particular, has been in the news recently because it has been hit by a number of instances of (quite spectacular) scientific fraud, and because it is also said to face a "replication crisis". This has raised questions about the status of psychology as a science, and its likely future. Here, we will also discuss these issues, and try to reach our own consensus about how to think about psychology as a discipline.</p>	<p>Marks (2009) Chapters 1-3</p> <p>Open Science Collaboration (2015) Estimating the reproducibility of psychological science. <i>Science</i> 349 (6251) aac4716-1 - aac4716-8</p> <p>and: http://www.nytimes.com/2015/08/24/opinion/the-case-for-teaching-ignorance.html?_r=0</p> <p>and: http://www.theonion.com/article/psychology-comes-to-halt-as-weary-researchers-say--36586.</p>

Date	Topic	Readings
September 23rd	<p>Ideas about race</p> <p>RACE is not a biological category, but a social one. This distinction is often poorly understood, and treated as though it refers to a “politically correct” refusal to acknowledge race. Instead, the distinction rests on an understanding of human history and population genetics. Race should be seen as a biosocial, rather than social category, along, and here we discuss how, as Gravlee says, “race becomes biology”.</p>	<p>Gravlee, C. C. (2009). How race becomes biology: embodiment of social inequality. <i>American Journal of Physical Anthropology</i>, 139(1), 47-57.</p> <p>Grandner, M.A., Williams, N., Knutson, K.L., Roberts, D., Girardin J.L. (2015) Sleep disparity, race/ethnicity, and socioeconomic position, <i>Sleep Medicine</i>: http://dx.doi.org/doi:10.1016/j.sleep.2015.01.020.</p> <p>Byrd, W. C., & Hughey, M. W. (2015). Biological Determinism and Racial Essentialism The Ideological Double Helix of Racial Inequality. <i>The Annals of the American Academy of Political and Social Science</i>, 661(1), 8-22.</p>
September 30th	<p>Ideas about childhood</p> <p>WHAT makes for a “good” childhood? Are the ideas we hold in the modern West true for all populations across time and space? Here, we will use the case of child labour to examine these questions in detail, and understand more about childhood in an evolutionary, biocultural perspective.</p>	<p>Lancy, D. F. (2015). Children as a reserve labor force. <i>Current Anthropology</i>. Vol. 56, No. 4: 545-568 (target article and commentaries)</p>
October 7th	<p>Science as (biocultural) practice</p> <p>NOW that we have considered some specific examples of how to take a biocultural stance on particular issues, we can now turn to the practice of science itself, and ask whether we also need to consider that bioculturally. as well.</p>	<p>Marks (2009) chapter 4.</p>

Date	Topic	Readings
<p>October 14th</p> <p>Jess</p>	<p>When is science not science?</p> <p>IF science is a form of social practice, performed by flawed human beings, and much more messy than a text-book account would have you believe, it becomes important to spot when we are dealing with 'pseudoscience'. These are studies that have all the trappings of a scientific approach, but fail on some very crucial aspects. How can we tell science from pseudoscience?</p>	<p>Marks (2009), chapters 5-6.</p>
<p>October 21st</p>	<p>Will the palaeodiet solve the "obesity crisis"?</p> <p>THERE are some Evolutionary Psychologists who argue that humans are poorly adapted to the modern world, and that our minds and bodies are adapted to the period that humans spent living as hunter-gatherers. Among other things, we are argued to have a taste for fat and sugar that was highly adaptive when these substances were rare, but which now lead us astray in an age of plenty, resulting in an 'epidemic of obesity'. To what extent are these claims valid? Are we adapted to a past that no longer exists? Should we eat a diet more like that of our early ancestors for optimum health? What other factors might explain why obesity has increased in recent history?</p>	<p>Konner, M., & Eaton, S. B. (2010). Paleolithic nutrition twenty-five years later. <i>Nutrition in Clinical Practice</i>, 25(6), 594-602.</p> <p>Turner, B. L., & Thompson, A. L. (2013). Beyond the Paleolithic prescription: incorporating diversity and flexibility in the study of human diet evolution. <i>Nutrition Reviews</i>, 71(8), 501-510.</p> <p>David, L. A., Maurice, C. F., Carmody, R. N., Gootenberg, D. B., Button, J. E., Wolfe, B. E., ... & Turnbaugh, P. J. (2014). Diet rapidly and reproducibly alters the human gut microbiome. <i>Nature</i>, 505(7484), 559-563.</p> <p>Wells, J. C. (2012). Obesity as malnutrition: the role of capitalism in the obesity global epidemic. <i>American Journal of Human Biology</i>, 24(3), 261-276.</p> <p>Also: http://www.nytimes.com/2015/08/30/opinion/diet-advice-that-ignores-hunger.html and http://www.theatlantic.com/magazine/archive/2013/07/how-junk-food-can-end-obesity/309396/ and http://fatandskinner.org/</p>

Date	Topic	Readings
October 28th	<p>When is it scientific wrongdoing, when is it “just how people used to do things”, and what is the difference?</p> <p>WE have now considered the issue of scientific misconduct in psychology, and also discussed how ideas about particular topics might shift over time (not least thanks to the generation of new scientific knowledge). Here, we return to these issues to discuss them more fully, now you have some knowledge under your belts, and can offer a more informed view.</p>	Marks (2009) Chapters 7-8
November 4th	<p>Ideas about reproduction</p> <p>IN modern industrial populations, people tend to have very few children. The shift from a high mortality-high fertility to a low mortality-low fertility regime is known as a “demographic transition” and represents an enduring puzzle for evolutionary approaches to human behaviour. At the same time, modern Western populations make increasing the use of assisted reproductive technologies (ART) to tackle problems of infertility. How are these two issues linked? And what does the use of ART mean for how we think about issues of kinship and parenthood, and the relevance of evolutionary approaches to human behaviour?</p>	<p>Lee, R. (2003). The demographic transition: three centuries of fundamental change. <i>The Journal of Economic Perspectives</i>, 17(4), 167-190.</p> <p>Almeling, R. (2015). Reproduction. <i>Annual Review of Sociology</i> 2015. 41:423–42</p> <p>Almeling, R. (2009). Gender and the value of bodily goods: commodification in egg and sperm donation. <i>Law & Contemp. Probs.</i>, 72, 37.</p> <p>Kelly, S. & Tan, S.L. (2002) Assisted Reproductive Technology. <i>J. Sex. Reprod. Med.</i> 2: 153-159.</p> <p>Pande, A. (2014). Commercial surrogacy in India: manufacturing a perfect mother-worker. <i>Signs</i>, 40(1).</p>
November 11th	No Class	REMEMBERANCE DAY

Date	Topic	Readings
<p>November 18th</p> <p>Jess</p>	<p>Ideas about birth</p> <p>THE human birth mechanism has long been argued to represent the result of a trade-off between the demands of efficient bipedalism and the production of large-brained offspring: the “obstetric dilemma”. More recent work has highlighted variability in the extent of the dilemma across time and space, as well as questioning the extent to which wide hips adversely affect biomechanics. Both of these suggest, once again, that such processes need to be reconceived in more biocultural terms.</p>	<p>Walrath, D. (2003). Rethinking Pelvic Typologies and the Human Birth Mechanism. <i>Current Anthropology</i>, 44(1), 5-31.</p> <p>Wells, J. C., DeSilva, J. M., & Stock, J. T. (2012). The obstetric dilemma: an ancient game of Russian roulette, or a variable dilemma sensitive to ecology? <i>American journal of Physical Anthropology</i>, 149(S55), 40-71.</p> <p>Wall-Scheffler, C. M. (2012). Energetics, locomotion, and female reproduction: implications for human evolution. <i>Annual Review of Anthropology</i>, 41, 71-85.</p>
<p>November 25th</p>	<p>Ideas about sex and gender</p> <p>DEBATES over sex and gender are highly contentious, and often the site of very polarized debates over whether nature or nurture is more important in determining observed differences between the sexes, and a person’s sexual orientation. By now, you should have (hopefully) gained a sense that any nature-nurture dichotomy is simply false (and rather pointless), and that simple gender or sex binaries are likely to be neither simple nor binary. Here, using the examples of sex typing in sport, we will tackle this issue from a biocultural viewpoint.</p>	<p>Marks (2009) Chapter 9</p> <p>Fausto–Sterling, A. (2000). The five sexes, revisited. <i>The Sciences</i>, 40(4), 18-23.</p> <p>Levy, A. (2009) Either/or. <i>New Yorker</i>, Nov. 30. http://www.newyorker.com/magazine/2009/11/30/eitheror</p> <p>Schweinbenz, A. N., & Cronk, A. (2010). Femininity Control at the Olympic Games. <i>thirdspace: a journal of feminist theory & culture</i>, 9(2).</p> <p>Karkazis, K., & Jordan-Young, R. (2015). Debating a testosterone “sex gap”. <i>Science</i>, 348(6237), 858-860.</p> <p>http://www.nytimes.com/2014/10/07/sports/sprinter-dutee-chand-fights-ban-over-her-testosterone-level.html?src=xps</p> <p>http://www.newyorker.com/news/sporting-scene/dutee-chand-gender-testing-imperfect-line</p>

Date	Topic	Readings
December 2nd	class presentations	Marks (2009) chapter 10
December 9th	class presentations	Marks (2009) chapter 10