Evolutionary Psychology

Summer 2019

Instructor Info

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Course Info

Evolutionary Psychology (PSYC S2490D)

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Monday/Wednesday – 9:00 a.m. – 12:10 p.m.
Prerequisites: PSYC 1001 or equivalent

General Information

> "Is it not reasonable to anticipate that our understanding of the human mind would be aided greatly by knowing the purpose for which it was designed?" (Williams, 1999, p. 16).

Traditional psychologists have focused primarily on answering "how?" questions regarding the mechanisms that underlie behavior (i.e. How does the system work?). In contrast, evolutionary psychologists focus primarily on answering ultimate, or "why?" questions (i.e. Why does this system exist, and why does it have the form it does?).

This course is designed to apply our knowledge of evolutionary theory to psychology in order to answer such questions. We will explore many questions of this nature including, but not limited to: Why is there variation among humans if we all face the same selection pressures? Why do humans seek revenge after-the-fact if they cannot get back what they have lost? Why do we honestly express something as subjective as our emotional states on our faces? Why do we take so long to develop? If we can live nearly 100 years, why can't we live 150 or 200? Why do we have sex? Why do my children play nicely with their friends, but not their siblings? Evolutionary psychologists have made specific predictions regarding each of these questions and many of their answers are based on strong empirical findings. They form the basis for this course.

Office Hours

The office hours are to be determined. I encourage you to set up at least one meeting (or more) - it provides a wonderful opportunity for a one-on-one discussion regarding thoughts and ideas related to the course material.

Course Website

You can access the course website on CourseWorks. We will use the course website extensively, so you should check it regularly. I will disseminate readings, make announcements, provide feedback, and post links to additional material online.

Classes

Lectures. Each class will consist of a lecture covering essential course material and a discussion of the assigned articles. Questions and discussion during lectures is oftentimes crucial in understanding concepts. Student contributions during lectures are highly encouraged.

Article discussions. Each student will be required to present one article during the semester. Presentations can be done individually, or in groups no larger than 2. The emphasis of the presentation will vary depending on the nature of the article. For example, some presentations may place a greater emphasis on theoretical underpinnings, while others might place a greater emphasis on methodology. Students will be required to sign up for these presentation dates and articles by week 2(class on May 30th). A list of articles and presentation dates will be posted shortly thereafter. Students will be required to read those articles that will be presented in order to contribute to the article discussions.

This syllabus contains citations for research articles relevant to each of the topics covered in the course that can be used for presentations. Students should not feel limited by this list and are encouraged to find articles that may be of greater interest to them. If substitutions are made, they must be discussed with and approved by me.

Course Requirements/Grading

Your final grade will be based on the number of points you earn through article discussion, 3 exams, 1 take-home quiz, and 1 paper.

Discussion (15 points)

Class participation can provide one of the most important aspects of the course, oftentimes providing a venue for the most fruitful thoughts and ideas. In many ways, the success of the course is dependent upon each of us contributing to the classroom discussion. Discussion grades will be

assessed by taking into account both the quality of presentations (see "Article Discussions" above) (10 points) as well as general participation when not presenting (5 points).

Contributions can vary widely and can include, expressing your own views and interpretations, summarizing, qualifying, or challenging someone else's views or interpretations, placing research findings in theoretical context, formulating new hypotheses based off of previous findings, and many other forms. I expect all of us to contribute appropriately and productively. If you find yourself uncomfortable talking in class for whatever reason, please let me know. If this is the case, there may be alternative ways of contributing (e.g. through Coureworks).

Exams (20 points each)

The exams will be held on 6/12/19, 6/24/19, and on the last day of class, 7/3/19 and will cover all course material reviewed until that date. Each will be worth 20 points and will consist of multiple choice, true/false, and short answer questions based off of the lecture material and article discussions.

Quiz (10 points)

There will be 1 take-home quiz. The quiz will cover all course material reviewed until the date that is it due (7/1/2019) and will be worth 10 points. The quiz will consist of fill-in-the-blank, multiple choice, and short answer questions. Content will be based on lecture content and discussions. Although students will receive individual grades on the quiz, you are encouraged to work together. Because the answers will not be based on opinion, students are encouraged to debate answers rather than "agreeing to disagree".

Paper (15 points)

This is a 5 – 8 page paper written in APA style. Your paper must present a novel evolutionary hypothesis (within any area of psychology) as well as a proposed methodology to test this hypothesis. Specific expectations for the paper (including a grading rubric) will be provided in class and on the course website. The paper will be due on a date to be determined. Papers greater than 8 pages in length will not be accepted.

Class Schedule

Class Date	Topic and Readings
Part I	Part I will provide students with a structural basis for the course (i.e. review of syllabus, student expectations, and instructor expectations) as well as a foundation for Evolutionary Psychology. Studying psychology from an evolutionary perspective requires a clear understanding of the theory of evolution. A primary aim of Part I is to explain what evolution is (and isn't) and what it can (and cannot) do. Although most students "know what evolution is," many hold crucial misconceptions. A secondary aim is to clear misunderstandings related to evolutionary theory.
5/29/19	**Course Introduction & Evolution by Natural Selection.** Darwin's contribution was not the idea that evolution happens. His contribution was the proposition of a process, a mechanism that could cause evolution. He called this mechanism natural selection. • Buss, D. M., Haselton, M. G., Shackelford, T. K., Bleske, A. L., & Wakefield, J. C. (1998). Adaptations, Exaptations, and Spandrels. American Psychologist, 53(5), 533-548. • Ketelaar, T., & Ellis, B. J. (2000). Are evolutionary explanations unfalsifiable? Evolutionary psychology and the Lakatosian philosophy of science. Psychological Inquiry, 11, 1-21.
6/3/2019	**The Genetic Basis of Evolution & The Selfish Gene.** Every theory of evolution rests, at least implicitly, on an assumption about the nature of heredity. Essentials to the understanding of evolutionary psychology will be discussed. • Trivers, R. L. (1971). The evolution of reciprocal altruism. The Quarterly Review of Biology, 46(1), 35-57. • Nilsson, D. & Pelger, S. (1994). A pessimistic estimate of the time required for an eye to evolve. Proceedings: Biological Sciences, 256(1345), 53-58.
Part II	Part II will provide students with an understanding of aspects regarding reproductive behavior. The primary aim of Part II is to explain mating systems and strategies. These include the problem of sex, predictions stemming from sexual selection, and short-term, long-term, and mixed mating strategies in both men and women.
6/5/2019	**Sex & Sexual Selection.** Why sex? Theoretical explanations and subsequent predictions will be discussed. Sexual selection is a type of natural selection. • Tooby, J. (1982). Pathogens, polymorphism, and the evolution of sex. Journal of Theoretical Biology, 97, 557-576.

	• Parker, G. A., Baker, R. R., & Smith, V. G. F. (1972). The origin and evolution of gamete dimorphism and the male-female phenomenon. Journal of Theoretical Biology, 36(3), 529-553. • Hamiton, W. D. & Zuk, M. (1982). Heritable true fitness and bright birds: A role for parasites? Science, 218, 384-387.
6/10/19	**Long-term Mating and Short-term Mating.** What are the long-term and short-term mating strategies of men and women? Why do we kiss? Also, how can I do best at Tinder and Bumble? Evolutionary hypotheses and findings will be discussed. • Singh, D. (1993). Body shape and women's attractiveness: The critical role of waist-to-hip ratio. Human Nature, 4, 297-321. • Thornhill, R. & Gangestad, S. W. (1999). The scent of symmetry: A human sex pheromone that signals fitness? Evolution and Human Behavior, 20, 175-201. • Buss, D. & Schmitt, D. (1993). Sexual strategies theory: An evolutionary perspective on human mating, 100, 204-232. • Boothroyd, L. G., Jones, B. C., Burt, D. M., DeBruine, L. M., & Perrett, D. I. (2008). Facial correlates of sociosexuality. Evolution and Human Behavior, 29, 211-218. • Kenrick, D., Groth, G., Trost, M., & Sandalla, E. (1993). Integrating evolutionary and social exchange perspectives on relationships: Effects of gender, self-appraisal, and involvement level on mate selection criteria. Journal of Personality and Social Psychology, 64, 951-969. • Miller, E. M. (2000). Homosexuality, birth order, and evolution: Toward an equilibrium reproductive economics of homosexuality. *Archives of Sexual Behavior*, 29(1), 1-34. • Bowers, R. I., Place, S. S., Todd, P. M., Penke, L., & Asendorpf, J. B. (2012). Generalization in mate-choice copying in humans. *Behavorial Ecology*. 23, 112-124. • Waynforth, D. (2007). Mate choice copying in humans. *Human Nature*, 18, 264-271.
6/12/19	**Exam I**
Part III	Part III will provide students with an evolutionary perspective on social behavior among family members and within social groups. A large focus will be placed on selfish, altruistic, cooperative, and spiteful behaviors. The primary aim of Part III is to elucidate the specific situations in which these behaviors are predicted and found to occur.
6/17/2019	**Families and Development and Life History Theory.** Conflict, cooperation, and altruism are predicted to occur within families. Specific predictions will be discussed. Additionally, there will be an introduction to life history theory.

	• Trivers, R. L. (1974). Parent-offspring conflict. American Zoologist 14(1), 249-264. • Chisolm, J. S., Ellison, P. T., Evans, J., Lee, P. C., Lieberman, L. S., Pavlik, Z, Ryan, A. S., Salter, E. M., Stini, W. A., & Worthman, C. M. (1993). Death, hope, and sex: Life-history theory and the development of reproductive strategies. Current Anthropology, 34(1), 1-24. •
6/19/2019	**Social, Common Knowledge, and Humor.** Live and let live? The focus will be on commitment and mutually beneficial cooperation. Also, the simultaneous coordination of action is facilitated by common knowledge. The recursive belief state in which A knows X, B knows X, A knows that B knows X, B knows that A knows X, ad infinitum. Finally, what makes us laugh? What possibly could be the function of laughter? • Hardin, G. (1968). The tragedy of the commons. Science, 162(3859), 1243-1248. • Frank, R. H., Gilovitch, T., & Regan, D. (1993). The evolution of one-shot cooperation: an experiment. Ethology and sociobiology, 14, 247-256. • Nesse, R. M. (2001). Natural selection and the capacity for subjective commitment. In R. M. Nesse (Ed.), *Evolution and the Capacity for Commitment* (pp. 1-44). New York: Russell Sage Press. • Thomas, K. A., DeScioli, P., Haque, O. S., & Pinker, S. (2014). The psychology of coordination and common knowledge. *Journal of Personality and Social Psychology*, 107(4), 657-676.
Part IV	Part IV will provide students with an understanding of the functional aspects of emotions. A large focus will be placed on emotions as "super-ordinate" programs increasing certain behaviors in specific situations. The primary aim of Part IV is to give evolutionary explanations for emotions, particularly in relation to motivation and communication.
6/24/2019	**Exam II**
6/26/2019	**Motivation and Emotion.** What are emotions? Evolutionary psychology has greatly shaped our understanding of emotions. We will discuss several functional explanations of emotions. Also, how do emotions influence our behavior? And, what's love got to do with it? Finally, why do we express emotions on our faces? • Tooby, J. & Cosmides, L. (1990). The past explains the present: Emotional adaptations and the structure of ancestral environments. Ethology and Sociobiology, 11(4-5), 375-424.

	• Al-Shawaf, L., Conroy-Beam, D., Asao, K., & Buss, D. M. (2016). Human emotions: An evolutionary psychological perspective. *Emotion Review*, 8(2), 173-186. • Nesse, R. M. (1990). Evolutionary explanations of emotions. *Human Nature*, 1(3), 261-289. • Shariff, A. F. & Tracy, J. L. (2011). What are emotion expressions for? *Current Directions in Psychological Science*, 20, 395-399. • Feldman Barrett, L. (2011). Was Darwin wrong about emotional expressions? *Current Directions in Psychological Science*, 20, 400-406. • Reed, L. I., Zeglen, K. N., & Schmidt, K. L. (2012). Facial expressions as signals of cooperative intent in a one-shot anonymous prisoner's dilemma game, *Evolution and Human Behavior*, 33(3), 200-209. • Reed, L. I., DeScioli, P., & Pinker, S. A. (2014). The commitment function of angry facial expressions. *Psychological Science*. • Reed, L. I. *The face of emotion.* The Edge.org conversation http://edge.org/conversation/lawrence-ian-reed-the-face-of-emotion • Shariff, A. F. & Tracy, J. L. (2011). Emotion expressions: On signals, symbols, and spandrels – A response to Barrett (2011). *Current Directions in Psychological Science*, 20, 407-408. • Reed, L. I., DeScioli, P. (2017). Watch out! How a fearful face adds credibility to warnings of danger. *Evolution and Human Behavior.* • Reed, L. I., DeScioli, P. (2017). The emotional moves of a rational actor: Smiles, scowls, and other credible messages. *Games*, 8(2), 18-29.
Part V	Part V will provide students with an understanding of the limitations and compromises predicted by evolutionary theory that result in physical and psychological difficulties. These include myopia, back pain, cancer, senescence, anxiety, depression, and drug use. The aim of Part V is to understand the nature of these and other disorders and the insight that evolutionary theory provides on their causes, consequences, and treatments.
7/1/2019	**Abnormal, Health, and Drug Use.** Evolutionary theory predicts variation and compromises of design. The implications towards psychological and physical health will be discussed. • Hagen, E. H. (2011). Evolutionary theories of depression: A critical review. Canadian Journal of Psychiatry, 56, 716-726. • Nesse, R. M. (2005). Natural selection and the regulation of defenses. A signal detection analysis of the smoke detector principle. Evolution and Human Behavior, 26, 88-105.

	• Hagen, E. H. & Rosenstrom, T. (2016). Explaining the sex difference in depression with a unified bargaining model of anger and depression. *Evolution, Medicine, and Public Health,* 1, 117-132. • Williams, G. C. & Nesse, R. M. (1991). The dawn of Darwinian medicine. *Quarterly Review of Biology,* 66(1), 1-22. • Roulette, C. J., Mann, H., Kemp, B. M., Remiker, M., Roulette, J. W., Hewlett, B. S., Kazanji, M., Breurec, S, Monchy, D., Sullivan, R. J., Hagen, E. H. (2014). Tobacco use, vs. helminths in Congo basin hunter-gatherers: Self-medication in humans? *Evolution and Human Behavior,* 35, 397-407.
7/3/2019	**Exam III**

Collaboration Policy Statement

Discussion and the exchange of ideas are essential to academic work. Regarding the paper, however, you should ensure that the written work you submit for evaluation is the result of your own research and writing and that it reflects your own approach to the topic. You must also adhere to standard citation practices in this discipline and properly cite any books, articles, websites, lectures, etc. that have helped you with your work. If you received any help with your writing (helpful feedback on drafts, etc), you must also acknowledge this assistance.

Academic Integrity

It is expected that all of the assignments you turn in for this course will be your own original work and turned in only for this course. Psychology is a cumulative science, and a single article may cite the findings and ideas of dozens of earlier articles. For your own papers, you will be required to draw upon existing research to inform and lend credibility to your arguments. In doing so, you must follow two rules:

- Always cite the source of a finding, idea, or argument that isn't your own – no matter how much rewording you have done.
- Always put the findings, ideas, and arguments you cite into your own words; if a direct quote is absolutely necessary, put the text in quotation marks and provide a page number along with the usual citation.

Plagiarized or improperly-cited work will be subject to severe penalties and disciplinary action. Please be very careful. **When in doubt, cite!** For more information citing others' work, please see me.

A Final Word

In addition to critical thinking, one of the overarching aims of this course is to seek knowledge and truth. This is often done through a freedom to inquire and to exchange ideas. Some of the inquiries and/or ideas made in the service of this overarching aim

may be counter to your intuitions. Some you may disagree with. Others might be "inconvenient" truths with respect to a particular agenda. Some you may find offensive. That's ok. If you find a particular argument to be offensive, unwise, immoral, or wrong-headed, it should not be suppressed by the judgement that it fit any of these criteria alone. It should be suppressed by openly and vigorously contesting the inquires and ideas that you oppose. This is how we learn.

I believe that knowledge is a virtue. I believe this to be true in not one, but two senses. The first is that, as Socrates argued, one cannot do good unless one knows what is good. An inaccurate view of the world can lead to misguided attempts to be good. For example, the inaccurate view that vaccines cause autism can result in a misguided attempt to reduce the use of vaccines in children. The second is the optimistic view that much evil is the result of insufficient knowledge.

In sum, I agree with Alice Dreger in her book Galileo's Middle Finger when she argues that good scholarship must "put the search for truth first". Justice will follow from truth:

"Evidence really is an ethical issue, the most important ethical issue in a modern democracy. If you want justice, you must work for truth. And if you want to work for truth, you must do a little more than wish for justice."

The Principle of Charity or Charitable Interpretation

This is a principle in philosophy and rhetoric which says that one should interpret other people's statements in their best, most reasonable form, not in the worst or most offensive way possible. I will always adhere to this principle with you. I hope you'll do the same.

Supplemental Readings

The following are additional readings that are referenced throughout the course. These readings are NOT required by students. Students may refer to these readings if they would like more information on a topic addressed in the course, or simply to fuel their own interests. Those in bold come highly recommended.

Axelrod, R. (1984). *The Evolution of Cooperation*. Perseus Books Group.

Buss, D. M. (2008). *The Evolution of Desire-Revised*. Basic Books.

Coyne, J. A. (2009). *Why evolution is true*. Penguin.

Coyne, J. A. (2016). *Faith versus fact: Why science and religion are* incompatible. Penguin.

Dawkins, R. (1986). *The blind watchmaker*. New York: Norton.

Dawkins, R. (2009). *The greatest show on earth: The evidence for evolution*. Simon and Schuster.

Dawkins, R. (1989). *The selfish gene* (new ed.). New York: Oxford University Press.

Dawkins, R. (2011). *The Magic of Reality: How We Know What's Really True*. Simon and Schuster.

Dawkins, R. (1996). *Climbing mount improbable*. New York: Norton.

Dennett, D. C. (1995). *Darwin's Dangerous Idea: Evolution and the meanings of life*. New York: Touchstone

Frank, R., (1998). *Passions within reason*. New York. Norton.

Freeman, S., and Herron, J. C. (2004). Mendelian genetics in populations I: Selection and mutation as mechanisms of evolution. In Freeman, S., and Herron, J. C. (2004) *Evolutionary Analysis*, p. 141-194.

Freeman, S., and Herron, J. C. (2004). Sexual selection. In Freeman, S., and Herron, J. C. (2004) *Evolutionary Analysis*, p. 373-418.

Kenrick, D. T., Groth, G. E., Trost, M. R., Sadalla, E. K. (1993). Integrating evolutionary and social exchange perspectives on relationships: Effects of gender, self-appraisal, and involvement level on mate selection criteria. *Journal of Personality and Social Psychology*, 64(6), 951-969.

Kurzban, R. (2012). *Why everyone (else) is a hypocrite: Evolution and the modular mind*. Princeton University Press.

Lieberman, D. (2013). *The story of the human body: evolution, health, and disease*. Random House LLC.

Nesse, R. M., & Williams, G. C. (1994). *Why we get sick*. New York: Times Books Random House.

Pinker, S. (1997). *How the mind works*. New York: Norton.

Pinker, S. (2002). *The blank slate: The modern denial of human nature*. New York: Viking.

Ridley, M. (2015). *The Evolution of Everything: How new ideas emerge.* HarperCollins.

Rudder, C. (2014). *Dataclysm: Who We are (when We Think No One's Looking)*. Random House LLC.

Tooby, J., and Cosmides, L. (1992). The Psychological foundations of Culture p.19-136. In Barkow, J. H., Cosmides, L., and Tooby, J. *The Adapted Mind*. 1992.

Weiner, J. (1994). *The beak of the finch*. New York: Vintage.