

PSY453: Nature/Nurture

Fall 2021: Tuesdays & Thursdays, 10:00–11:20
Weis College House Commons, Room 102

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Office Hours: Wednesdays from 2:00–4:00 & Fridays from 10:00–11:00 (or by appointment)

Course Description

One of the most enduring disputes in the field of psychology concerns the degree to which psychological traits are learned or innate. Are genes or socialization responsible for heightened rates of aggression in men? How do biological and environmental factors interact to produce language? Is culture an evolved adaptation? Does it make any sense at all to partition the causes of thinking and behavior into “nature” and “nurture” – or is this a wholly false dichotomy? Throughout this course, we will draw upon cutting-edge research to evaluate a range of theoretical perspectives on the interplay of nature and nurture. We will also discuss the myriad sociopolitical ramifications of this fundamental debate.

Course Objectives

By the end of the semester (provided regular attendance, active participation in class discussions, assiduous completion of all assignments, and adherence to all other class policies), you will attain and cultivate the skills needed to achieve the following objectives:

- **Understand** a range of perspectives on the contributions of nature and nurture to shaping psychology.
- **Evaluate** empirical evidence to formulate a stance on the validity of conflicting theoretical perspectives.
- **Synthesize** material by bridging theory and data to construct holistic and innovative arguments.
- **Apply** a broad theoretical framework to a specific psychological phenomenon of interest.
- **Communicate** ideas by honing your abilities to confidently converse about psychological literature.

Course Requirements and Grading

You will be assessed by your performance on the following assignments, detailed below (1,000 points total):

Thoughtful Participation	Reading Reflections	Topic Workshop	Term Paper Preparation	Term Paper	Midterm Exam	Final Exam
150 pts.	25 pts. (x 10)	50 pts.	50 pts.	300 pts.	75 pts.	125 pts.

Letter grades will be assigned as follows (decimals will be rounded to the nearest whole number):

A 93–100	A- 90–92	B+ 87–89	B 83–86	B- 80–82	C+ 77–79
C 73–76	C- 70–72	D+ 67–69	D 63–66	D- 60–62	F 0–59

Please note: You are not your grade. Your grade is an assessment of your mastery of course material; it is not an assessment of your worth as a human being.

Thoughtful Participation

The success of this course depends heavily on your contributions to our class discussions. Also, as research has convincingly shown¹, you will learn more effectively by actively participating in these discussions. You are expected to come to class prepared to discuss all of the readings critically and creatively, by making intelligent claims, raising objections, and asking thought-provoking questions that range from specific critiques of a particular methodology to big-picture applications of a body of findings. To give everybody an equal opportunity to receive full credit, I will sometimes refrain from calling on frequent participators. I may also institute random cold calling, but I will typically provide you time to prepare for this by giving you time for free writing or pair sharing. Please respect a diversity of opinions and questions, and always aim to contribute constructively and considerately.

You are expected to have all assigned readings accessible, and it will often be helpful to also bring relevant readings from previous classes, as well as any notes you have taken. Having your Reading Reflection handy will additionally help you to contribute to discussions. Because consistent attendance is necessary for you to have the opportunity to participate in class, frequent absences will negatively impact your participation grade.

Your participation grade will primarily reflect the quality – rather than quantity – of your in-class comments, including how well you respond to classmates and actively encourage their participation. An excellent grade will be earned by reliably participating in thoughtful ways that reveal intellectual acuity and a deep engagement with the material; by always displaying preparation, having thought critically about all assigned readings and formulated discussion questions before class; by respectfully listening to others and generously responding to their contributions, thus approaching discussion as a collaborative activity; and by making sophisticated connections that consistently elevate the level of discussion.

Reading Reflections

By 6:00pm on each Monday (except 10/11 and 11/22), you should submit a short reflection (approximately 400–500 words) on the pair of readings that has been assigned for that day. Each of these reflections will be worth a possible 25 points. Your strongest 10 responses will be counted toward your grade; you may therefore replace your lowest two scores (or, you can miss two submissions without penalty).

Prompts for each reflection will be provided in advance, on Canvas. You should address both of the assigned readings when responding to each prompt. Strong reflections will raise questions about particularly confusing aspects of the readings, remark on practical or ethical applications, note contradictions or agreements between different readings, suggest potential follow-up research, and/or critique conclusions drawn in the readings. You may also tie the readings to your chosen paper topic, such that you are able to reuse elements of these reflections in your final paper. At the end of each reflection, you should pose at least one open-ended discussion question for the class and note one passage that you would like to discuss in more depth (this is not included in the recommended word count). Because these reflections are brief, it is crucial that you do not include irrelevant details, that you do not spend too much time summarizing, and that each sentence demonstrates thoughtfulness. The purpose of these reflections is threefold: allowing me to ensure that you complete the readings before each class, allowing me to detect misconceptions of the assigned readings, and allowing you to reflect on and critically interrogate the material before arriving in class.

Typically, I will grade the Reading Reflections by the beginning of class. Because of the quick turnaround, I will not be able to provide extensive written feedback on your reflections – but I am very happy to discuss your grades or strategies for improvement at any time. I encourage you to take advantage of this by setting up one-on-one meetings.

¹ See, for example, Howard, J. R. (2015). *Discussion in the college classroom*. San Francisco, CA: Jossey-Bass.

Term Paper

The ubiquity of the nature/nurture debate is a testament to its relevance to nearly all psychological phenomena. For your primary class assignment, you will have the opportunity to apply the course materials to a topic of your choice in a paper that you will work on throughout the duration of the semester. You have many options for the content and format of your paper, but you will be required to adhere to the following overarching requirements:

- 1) You must synthesize information from both theoretical and empirical articles, including the assigned readings and papers/books that you find on your own. You should aim to include at least 15 sources.
- 2) Your paper should be submitted electronically to Canvas as a Word document. You are responsible for ensuring that you successfully upload a correct and readable document by the deadline (December 20th).
- 3) You should follow APA style guidelines and submit a final paper of approximately 4,000 ($\pm 1,000$) words.

Possible topics include (but are not limited to!) the following:

Language	Gender identity	Religiosity	Mood disorders	Folk biology
Extraversion	Theory of mind	Social learning	Visual cognition	Political ideology
Implicit bias	Autism	Numerical cognition	Prosociality	Stress and anxiety
Intelligence	Motor skills	Food preferences	Sexual desires	Schizophrenia

Options for formats include (but are not limited to!) the following:

1) Grant proposal: Propose a line of research that addresses an unanswered question about the influences of nature and nurture on your chosen phenomenon. Motivate your hypothesis with the existing research literature, and then describe a methodology for testing your hypothesis. Finally, motivate the theoretical and practical importance of funding your research proposal.

2) Literature review: Take a stand on how nature and nurture should best be understood as contributing to your chosen phenomenon, and review the relevant research literature to evaluate the degree to which existing evidence supports (and has been interpreted to support) your position.

3) Policy brief: Identify an existing policy (e.g., affirmative action, educational standards) that is directly or indirectly influenced by assumptions about your chosen phenomenon. Make an argument to a legislator or an agency, explaining how current scientific understanding of nature and nurture provides grounds for altering the current policy and providing recommendations for a modified policy.

You will receive two grades on your paper. The primary grade (300 points) will be an assessment of the final product that you submit at the end of the semester. The other grade (50 points) will be a measure of the steady progress you make on your paper over the course of the semester, which will not be linked to the quality of the paper itself, but will instead be earned by doing work on a regular basis and adhering to the following steps:

- 1) Share a Google Doc or Sheet on which you continuously record your insights, questions, and decisions.
 - a. You should use this shared document in whatever way is most helpful to you, but it should provide some evidence that you are making consistent headway (e.g., reading a minimum of 1–2 papers per week on your chosen topic, narrowing down an argument, drafting paragraphs for your paper, etc.)
 - b. You should obtain feedback on your progress at least once per month by meeting with me and/or “assigning” me to answer a question on your Google Doc (by adding “+jrottman@fandm.edu” to a comment). I will also periodically check on your Doc and may provide comments when I do.
- 2) By October 22nd: Upload a tentative thesis statement and carefully considered outline to Canvas. You will receive ungraded feedback by November 1st.
- 3) By November 30th: Provide evidence or a written statement that you have received substantive feedback from at least one classmate and that you have provided substantive feedback to at least one classmate.
- 4) By December 3rd: Upload a polished draft to Canvas. You will receive ungraded feedback by December 13th.

Topic Workshop

You will be assigned to lead a 30-minute discussion on an empirical research paper that you identify on your own (or with my assistance), which relates both to your final paper topic and to the readings that are assigned for the week. The purpose of these topic workshops is twofold. First, you will guide your classmates in thinking through a concrete example of research that helps to illuminate the particular theoretical aspect of the interplay between nature and nurture that was discussed during the previous class period, thus setting the groundwork for a productive discussion about the relationship between data and theory. Second, you will obtain peer support in collaboratively thinking through an issue that is in some way related to your final paper, thus helping you to gain additional clarity on difficult concepts and to solidify the argument you will be making.

Your workshop should include a brief exposition of your chosen paper, a careful description of the methods and results, and a high-level commentary that critically evaluates the authors' interpretation of their findings. You should conclude this presentation by noting open questions that are raised by the data and/or their interpretation, in addition to considering various connections between your final paper topic and the week's assigned readings, thus creating a broad framework for subsequent discussion. Aim to keep your presentation to 10 minutes in order to allow ample time for conversation. While it should be evident that you have worked hard to understand your paper, you should not feel the need to assume the role of the "expert"; instead, you can use your time to collaboratively work toward a better understanding of the ideas that you are presenting.

In order to maximize the effectiveness of your topic workshop, you are required to email your chosen article (or, even better, a few options) to me at least one week in advance, at which point I will either approve the choice or suggest strategies for identifying a replacement article. You are also required to email me with a short "lesson plan" at least two days in advance. Additionally, I encourage you to meet with me to brainstorm ideas, to discuss potential plans for your workshop, and/or to resolve any questions you may have.

Midterm and Final Exams

A primary focus of this class will consist in overcoming misunderstandings and gaps in knowledge related to "nature", "nurture", and their varied and intricate interactions. Across two exams (each consisting of a mixture of multiple-choice, short answer, and essay questions), you will be assessed on your progress in building new perspectives from which to appreciate this complex theoretical landscape. Therefore, you will not be assessed on your memorization of isolated facts, but rather on your ability to synthesize and apply the information that you have learned, which will require a deep understanding of the material. These exams will be open-book and open-note; you may use any non-electronic aids that you would like to bring to class. While you are permitted to utilize readings or notes in formulating your answers, please remember that plagiarizing any of this text is a serious offense; you must always use your own words and attribute credit when appropriate.

Opportunities for Extra Credit

You may earn up to 15 extra credit points during the semester through any combination of the options below. Additional bonus opportunities may also arise, providing the potential to earn even more extra credit.

- Each time you email a paragraph-length description of a relevant talk that you attended (e.g., Common Hour), you will earn 3 extra credit points.
- Each time you email a paragraph-length description of a relevant news article, television show, or movie, accompanied by a paragraph detailing the connections to class content, you will earn 2 extra credit points.
- Each time you visit the Writing Center for assistance on your paper, you will earn 2 extra credit points.

Course Policies

Academic Integrity: I take academic honesty **very seriously**. You risk severe consequences by committing acts of plagiarism (i.e., representing someone else's work as your own), cheating, falsification, impersonating, or other similar offenses, including facilitating another student in committing an act of academic dishonesty. Penalties for these offenses will be assessed on a case-by-case basis, and may include receiving a failing grade or expulsion from F&M. Please refer to the F&M College Catalog for additional details.

Grading Policies: Because Reading Reflections are meant to shape class discussion, late submissions will not be accepted. You will lose 10% of your grade on your term paper for every day it is late. However, you have a "free gift" that you may use once during the semester: a 72-hour, no-penalty extension on submitting the outline, draft, or final version of your term paper. In extreme cases when unexpected and unavoidable circumstances prevent you from completing an assignment on time, please inform me as soon as possible and I will use my discretion to determine whether to waive or attenuate the late penalty. Makeup exams will be administered without penalty only in extreme circumstances, and only when advance notification (when feasible) has been duly given. Similarly, your Topic Workshop will be rescheduled only when necessitated by extreme and unforeseen circumstances.

If you receive a grade that is inconsistent with what you believe you should have earned, you have a week to set up an appointment with me to appeal your grade. When scheduling this appointment, you must submit a written statement explaining your case. After one week has passed, all grades will be considered final.

Policy on Electronic Devices: To maximize your success and minimize distractions for you and your classmates, I strongly discourage the use of electronic devices during class. Therefore, it is best if you bring hard copies of required readings to class with you and use a paper notebook to take notes. However, if you have a compelling reason for using a laptop or other electronic device on a regular basis, please speak with me privately at the beginning of the semester.

Academic Accommodations: I strive to provide an environment that is equitable and conducive to achievement and learning for all students. I invite you to speak with me about your individual learning needs so that we can discuss how this course can accommodate them. Formal academic accommodations are available for students who require them. Please schedule an appointment immediately to discuss any accommodations that have been supported by appropriate documentation and approved by the Office of Student Accessibility Services. I will keep all information confidential.

Communication: Email is the best way to reach me; I will generally respond within 24 hours. Additionally, most important announcements will be communicated via email; please be sure to stay on top of your inboxes and read all emails fully. I will be available to talk in my office during the times listed at the top of the syllabus, by appointment, and anytime when my door is open. I strongly encourage you to meet with me often, particularly in cases when you need further clarity on an assignment or a grade, or if course material has made you uncomfortable in any way. While mild discomfort is often a positive indication of personal and intellectual growth, please speak to me immediately if you experience (or anticipate experiencing) more severe forms of distress. If any issues arise that have the potential to interfere with your success in the course, please be in touch with me as soon as possible. I value open communication, and I invite you to be frank with me.

Tips for Success: This class will be intensive. You will be expected to consistently keep up with all of the readings and to assimilate and synthesize a lot of difficult material. This will often require spreading readings across multiple days and re-reading material after classes. **I am here to help you succeed**, and I urge you to come talk to me about concerns or confusions regarding the course material and assignments, or anything that affects your ability to achieve your academic goals. Your classmates can also be great resources; reaching out to fellow students can be a fun and collaborative way to learn. In particular, swapping paper drafts to receive informal peer evaluations is an acceptable and encouraged practice to improve your writing. Additionally, please take advantage of the many other resources that F&M has to offer! The Writing Center can assist you with writing and other academic skills. The College Librarians, particularly Scott Vine, will be able to assist you with finding relevant literature. Finally, a number of resources are available to support your wellbeing, including DipCares, the House Deans, and the Student Wellness Center. If any issues arise that have the potential to interfere with your success in the course, please be in touch with me as soon as possible.

Semester Schedule

Dates	Lecture Topic	Reading Assignments (to be completed before each class)
Part 1: Debating the Roles of Nature and Nurture		
9/2	Introductions and general overview	<i>No assigned readings.</i>
9/7 & 9/9	Societal implications	Micklos, D., & Carlson, E. (2000). Engineering American society: The lesson of eugenics. <i>Nature Reviews: Genetics</i> , 1(2), 153–158. Waltz, M. M. (2015). Mothers and autism: The evolution of a discourse of blame. <i>AMA Journal of Ethics</i> , 17(4), 353–358.
9/14 & 9/16	Characterizing the nature vs. nurture debate	Prinz, J. J. (2012). <i>Beyond human nature: How culture and experience shape the human mind</i> (pp. 1–14). New York, NY: Norton. Pinker, S. (2004). Why nature & nurture won't go away. <i>Daedalus</i> , 133(4), 5–17.
Part 2: What Explains Similarities and Differences Across Societies?		
9/21 & 9/23	Biology depends on sociocultural embeddedness	Engel, G. L. (1980). The clinical application of the biopsychosocial model. <i>The Journal of Medicine and Philosophy</i> , 6(2), 101–124. Domínguez Duque, J. F., et al. (2010). Neuroanthropology: A humanistic science for the study of the culture–brain nexus. <i>Social Cognitive and Affective Neuroscience</i> , 5, 138–147.
9/28 & 9/30	Culture depends on biological predispositions	Sperber, D., & Hirschfeld, L. A. (2004). The cognitive foundations of cultural stability and diversity. <i>Trends in Cognitive Sciences</i> , 8(1), 40–46. Buss, D. M. (2001). Human nature and culture: An evolutionary psychological perspective. <i>Journal of Personality</i> , 69(6), 955–978.
10/5 & 10/7	Blending and blurring the lines between evolution and culture	Heyes, C. (2020). Psychological mechanisms forged by cultural evolution. <i>Current Directions in Psychological Science</i> , 29(4), 399–404. Richerson, P. J., & Boyd, R. (2002). Culture is part of human biology: Why the superorganic concept serves the human sciences badly. In <i>Probing human origins</i> (pp. 59–85). Cambridge, MA: AAAS.
10/12: No class (Fall Break)		
10/14: MIDTERM EXAM		
Part 3: What Explains Similarities and Differences Within a Society?		
10/19 & 10/21	Behavioral genetics and heritability	Plomin, R., et al. (2008). <i>Behavioral genetics</i> (pp. 59–91). New York: Worth Publishers. Turkheimer, E. (2000). Three laws of behavior genetics and what they mean. <i>Current Directions in Psychological Science</i> , 9(5), 160–164.
10/26 & 10/28	Problems with partitioning genes and environments	Moore, D. S., & Shenk, D. (2017). The heritability fallacy. <i>Wiley Interdisciplinary Reviews: Cognitive Science</i> , 8(1–2), e1400. Block, N. (1995). How heritability misleads about race. <i>Cognition</i> , 56(2), 99–128.
11/2 & 11/4	Interactions of nature and nurture	Ellis, B. J., & Boyce, W. T. (2008). Biological sensitivity to context. <i>Current Directions in Psychological Science</i> , 17(3), 183–187. Caspi, A., & Moffitt, T. E. (2006). Gene–environment interactions in psychiatry: Joining forces with neuroscience. <i>Nature Reviews: Neuroscience</i> , 7(7), 583–590.

Date	Lecture Topic	Reading Assignments (to be completed before each class)
Part 4: What Explains How Development Occurs Within Individuals?		
11/9 & 11/11	What is "innateness"?	Spelke, E. S., & Kinzler, K. D. (2007). Core knowledge. <i>Developmental Science</i> , 10(1), 89–96. Mameli, M., & Bateson, P. (2011). An evaluation of the concept of innateness. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 366(1563), 436–443.
11/16 & 11/18	What is "learning"?	Gould, J. L., & Marler, P. (1987). Learning by instinct. <i>Scientific American</i> , 256(1), 74–85. Stahlman, W. D., & Leising, K. J. (2018). The coelacanth still lives: Bringing selection back to the fore in a science of behavior. <i>American Psychologist</i> , 73(7), 918–929.
11/23: FINAL EXAM		
11/25: No class (Thanksgiving Break)		
11/30 & 12/2	Dissolving the nature/nurture dichotomy in the study of human development	Spencer, J. P., et al. (2009). Short arms and talking eggs: Why we should no longer abide the nativist–empiricist debate. <i>Child Development Perspectives</i> , 3(2), 79–87. Oyama, S., et al. (2001). Introduction: What is developmental systems theory? In <i>Cycles of contingency: Developmental systems and evolution</i> (pp. 1–6). Cambridge, MA: MIT Press.
12/7 & 12/9	Epigenetics and the future	Thayer, Z. M., & Non, A. L. (2015). Anthropology meets epigenetics: Current and future directions. <i>American Anthropologist</i> , 117(4), 722–735. Waggoner, M. R., & Uller, T. (2015). Epigenetic determinism in science and society. <i>New Genetics and Society</i> , 34(2), 177–195.

Note: Components of this schedule are subject to change; please check Canvas regularly for updates.

Important Dates

Sept. 8	Sept. 15	Oct. 6	Oct. 14	Oct. 22	Nov. 23	Nov. 29	Dec. 3	Dec. 20
Last day to add classes	Last day to drop classes	Day of Dialogue	Midterm exam	Paper outline due	Final exam	Last day to elect P/NP or withdraw	Paper draft due	Final paper due



"You can't blame everything on being home-schooled by bank robbers."



"THEY FOUND YOUR GENE FOR ANTI-SOCIAL BEHAVIOR, BUT THEY'RE STILL LOOKING FOR THE ONE FOR ROBBING LIQUOR STORES."