

PSY453: Nature/Nurture

Spring 2026

Mondays & Wednesdays, 2:30–3:50

Bonchek Seminar Room (BON103)

Professor Joshua Rottman

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Office Hours: Mondays from 11:30–1:00 & Wednesdays from 12:30–2:00 (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. In doing so, we will come to understand that debates about nature and nurture persist largely due to conceptual confusions. We will also discuss the myriad sociopolitical ramifications of misunderstanding crucial insights within this fundamental debate.

Course Objectives

By the end of the semester (provided careful completion of all assigned readings, regular attendance, active participation in class discussions, 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** broad theoretical frameworks to understanding psychological phenomena and societal trends.
- **Communicate** ideas by honing your abilities to confidently converse about psychological science.
- **Revise** your prior beliefs about the nature/nurture debate and the role of scientific explanation.

Course Requirements and Grading

You will be evaluated by your performance on the following criteria/assignments (100 points total):

Preparation for Classes	Midterm Exam (Written)	Final Exam (Oral)	Active Learning
25 points	25 points	25 points	25 points

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. Grades assess your mastery of course material, not your worth as a human being. In general, grades are an unfortunate and highly problematic component of higher education. Although I am required to assign a final letter grade to you, I strongly encourage you to maintain a focus on learning rather than on assessment throughout the semester (which will likely help you to earn a high grade!).

Course Requirements

Preparation for Classes

Close Reading of Assigned Papers (10 points): The success of this course depends heavily on your close, sustained engagement with the assigned readings. Many of the papers are long and dense, and some may take several hours to get through, so you should be sure to give yourself ample time to get through the pair of articles for each week. You are expected to have all assigned readings accessible during each class session (either printed or in PDF format), and it will often be helpful to also bring relevant readings from previous classes. Periodically throughout the semester, I will ask you to show me evidence of your active engagement with the texts, in the form of highlighting/underlining and comments/notes.

Weekly Discussion Posts (15 points): By 11:59pm each Sunday (with the exception of March 22), you are required to submit a set of **four** questions interrogating the set of assigned readings for the upcoming pair of classes. These questions, which should be approximately 2–4 sentences each, should be posted in the relevant discussion forum on Canvas. (This means that your questions will be viewable by your classmates. If you ever feel uncomfortable with posting questions publicly, you may instead email them to me.) These can be either substantive clarification questions or open-ended questions aimed at fueling a sophisticated discussion. Your questions should demonstrate careful and critical engagement with the material (e.g., by explaining the sources of your confusion, raising contradictions or agreements between different readings, critiquing methods or conclusions, and/or asking about implications of the research). If a question relates to a particular passage, please include the page number(s) from the reading. In general, your set of four questions should span across both assigned readings for the week. The purpose of these questions is threefold: helping to ensure that you actively engage with the readings in a reflective manner, allowing me to detect misconceptions of key concepts, and providing fodder for our class discussions. Late submissions will not be accepted; however, you will be able to drop your two lowest scores at the end of the semester. Typically, I will read and evaluate the discussion posts within 24 hours. Because of this quick turnaround, I will not be able to provide extensive written feedback, but I am very happy to discuss your scores or strategies for improvement at any time.

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 forms of interaction. Across two exams, you will be assessed on your progress in building new perspectives from which to appreciate this complex theoretical landscape. You will be assessed on the basis of your ability to explain, synthesize, and apply big-picture ideas that you have learned, which will require a deep conceptual understanding of the material; you will not be expected to memorize any isolated facts.

Midterm Exam (25 points): You will have the full 80-minute class period to complete this exam. During this time, you will not be permitted to access readings, notes, or other aids. You will be given a mixture of short answer and essay questions, and you will write answers in a bluebook. I do not anticipate that you will need to study heavily for the exam; prior engagement with the readings and class discussions should be sufficient.

Final Exam (25 points): For this oral exam, you will schedule a 20-minute timeslot (either during the last week of classes, reading days, or our scheduled exam time), during which we will have a one-on-one conversation about the course material. I will primarily ask you a few questions that span topics from the duration of the semester, in order to gauge your general understanding, and we will also take time to focus on areas of greatest interest to you. I will additionally ask you to reflect on the primary intellectual breakthroughs that you have made by taking the course. I will do my best to make this conversation as stress-free as possible; my primary aim is to have an enjoyable and fruitful end-of-semester chat with you.

Course Requirements (continued)

Active Learning

Thoughtful Participation (15 points): You will learn most effectively by actively contributing to our class discussions. You are expected to be prepared to discuss all of the readings critically and creatively, by making informed 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.

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 frequently citing passages from the assigned readings to make informed claims or to ask questions; 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. Because consistent attendance is necessary for you to have the opportunity to participate in class, I will begin to become worried about your ability to succeed in the course if you miss more than three class sessions; frequent absences will negatively impact your participation grade and overall grade.

Self-Evaluation (10 points): Of course, you are likely to have many insights about topics in the course of which I will be unaware, and so my assessment of your class participation will be far from a perfect window into your learning. Additionally, I believe that an important component of your learning is strengthening your metacognitive ability to accurately reflect on your academic strengths and weaknesses, as well as honing your sense of accountability for understanding the material. Therefore, you will be expected to evaluate your own learning in a Google Doc that is shared with me and which you update at least once per week. This self-evaluation is designed for you to consistently assess your intellectual progress and performance in this course. For example, you could document breakthroughs in understanding particular concepts, note ideas that remain confusing, indicate ways in which you have challenged yourself, and provide highlights from your contributions to discussions. My hope is that this evaluation is helpful to you, rather than feeling like busywork. Therefore, beyond providing regular, detailed, introspective accounts of your learning, there is no recommended word count or format; please take the space that you need, while aiming to balance being comprehensive and being concise. I will periodically comment on this Doc throughout the semester, especially if I need more detailed information or if our perceptions are mismatched.

Course Policies

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.

Academic Integrity: You risk severe academic and disciplinary consequences if you do not uphold principles of academic integrity. If a classmate or a published paper contributes an idea that you integrate into your work, or if you use generative AI to create or refine your writing or ideas, you must clearly denote credit. Acts of academic dishonesty (including submitting text produced by generative AI without properly assigning credit) will be carefully assessed on a case-by-case basis, and may include penalties ranging from needing to redo an assignment to receiving a failing grade in the course. Please refer to the Franklin & Marshall College Catalog for additional details.

Communication: Email is the best way to reach me; I generally respond within 24 hours. Also, most important announcements will be communicated via email; please be sure to stay on top of your inboxes and read all emails fully.

Grading Policies: I will distribute rubrics for each of the course requirements to provide you with transparent explanations for each of your grades, and I will keep Canvas updated so that you may track your current grade at any point. It is your responsibility to come to each class on time, prepared to learn and discuss, and to submit each discussion post by the deadline. However, I understand that life can sometimes get in the way of upholding these responsibilities in all instances. Therefore, in addition to being able to miss up to two discussion posts without penalty (after which you will lose 1.5% per missing discussion post), I will award you **three “tokens”** that you can use for missing class sessions at any point during the semester. I would encourage you to use these only when necessary. If you will require more tokens due to documented academic accommodations or unavoidable extenuating circumstances, it is your responsibility to set up a meeting so we can formulate a plan that is equitably aligned with your specific situation; extra tokens will not be granted without prior arrangements. You do not need to inform me when you are using a token; instead, you should document these yourself and account for their usage in your self-evaluation. If you use more than the allotted number of tokens, your final grade will be adjusted downward accordingly (at a rate of 2% per additional absence). **Makeup exams will be administered without penalty only in extreme and unforeseen circumstances, and only when advance notification (when feasible) has been duly given; otherwise, failure to attend either the midterm or final exam will result in you forfeiting this portion of your grade.**

Policy on Electronic Devices: To maximize your success and minimize distractions for you and your classmates, I encourage you to use electronic devices only when they directly facilitate your learning (e.g., for notetaking or for consulting PDFs of assigned readings). Phones should not be used at any time, and I will sometimes ask you to put away other electronic devices as well. If you have compelling reasons for using a laptop or other device more often, particularly if official accommodations have been arranged, please speak with me privately at the beginning of the semester.

Tips for Success: This course will be challenging; it includes a lot of advanced, difficult material. Success will often require spreading readings across several days preceding each week and re-reading some material after classes. I am here to help you succeed, and I encourage you to come chat with me about concerns or confusions regarding the course material and assignments, or anything that affects your ability to achieve your academic goals. I will be available to meet during my office hours, by appointment, and anytime when my office door is open. Please take advantage of this, particularly in cases when you need further clarity on an assignment or when course material has made you uncomfortable in any way. While mild discomfort is often a positive indication of personal and intellectual growth, please come speak to me immediately if you experience any form 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. Your fellow students can also be great resources; reaching out to them can be a fun and collaborative way to learn. Additionally, please feel free to take advantage of the many other resources that F&M has to offer! _____

Semester Schedule

Dates	Topic	Reading Assignments (to be completed before each class)
Part 1: Debating the Roles of Nature and Nurture		
1/14	Introductions and overview	<i>No assigned readings.</i>
1/19 & 1/21	Can nature and nurture be disentangled?	Pinker, S. (2004). Why nature & nurture won't go away. <i>Daedalus</i> , 133(4), 5–17. 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.
Part 2: What Makes People So Alike?		
1/26 & 1/28	Innateness and learning	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. Margolis, E., & Laurence, S. (2013). In defense of nativism. <i>Philosophical Studies</i> , 165(2), 693–718.
2/2 & 2/4	The origins of specialized cognitive abilities	Buss, D. M. (2001). Human nature and culture: An evolutionary psychological perspective. <i>Journal of Personality</i> , 69(6), 955–978. Heyes, C. (2019). Précis of <i>Cognitive Gadgets: The Cultural Evolution of Thinking</i> . <i>Behavioral and Brain Sciences</i> , 42, e169.
2/9 & 2/11	Blurring the divide between biology and culture	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. Kasser, S. M., et al. (2025). Not by selection alone: Expanding the scope of gene-culture coevolution. <i>Evolutionary Anthropology</i> , 34(3), e70007.
Part 3: What Makes People So Different?		
2/16 & 2/18	Attempting to partition genes and environments	Plomin, R. (2023). Celebrating a century of research in behavioral genetics. <i>Behavior Genetics</i> , 53(2), 75–84. Visscher, P. M., et al. (2008). Heritability in the genomics era—Concepts and misconceptions. <i>Nature Reviews Genetics</i> , 9(4), 255–266.
2/23 & 2/25	Problems with behavioral genetics	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.
3/2 & 3/4	Interactions of nature and nurture	Tabery, J. (2015). Debating interaction: The history, and an explanation. <i>International Journal of Epidemiology</i> , 44(4), 1117–1123. Belsky, J., & Pluess, M. (2009). The nature (and nurture?) of plasticity in early human development. <i>Perspectives on Psychological Science</i> , 4(4), 345–351.
3/9 & 3/11	Taking development seriously	Moore, D. S. (2017). Behavioral epigenetics. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , 9(1), e1333. Sameroff, A. (2010). A unified theory of development: A dialectic integration of nature and nurture. <i>Child Development</i> , 81(1), 6–22.
3/16 & 3/18: Spring Break		
3/23: Midterm Exam		
3/25: Discussion of Answers on Midterm Exam		

Date	Topic	Reading Assignments (to be completed before each class)
Part 4: Societal Implications		
3/30 & 4/1	Eugenics and genetic selection	Micklos, D., & Carlson, E. (2000). Engineering American society: The lesson of eugenics. <i>Nature Reviews: Genetics</i> , 1(2), 153–158. Savulescu, J. (2001). Procreative beneficence: Why we should select the best children. <i>Bioethics</i> , 15(5–6), 413–426.
4/6 & 4/8	Worries about essentialism and determinism	Dar-Nimrod, I., & Heine, S. J. (2011). Genetic essentialism: On the deceptive determinism of DNA. <i>Psychological Bulletin</i> , 137(5), 800–818. Harden, K. P. (2023). Genetic determinism, essentialism and reductionism: Semantic clarity for contested science. <i>Nature Reviews Genetics</i> , 24(3), 197–204.
4/13 & 4/15	Implications for blame and moral responsibility	Waltz, M. M. (2015). Mothers and autism: The evolution of a discourse of blame. <i>AMA Journal of Ethics</i> , 17(4), 353–358. Resnik, D. B. (2014). Genetics and personal responsibility for health. <i>New Genetics and Society</i> , 33(2), 113–125.
4/20 & 4/22	Addressing general beliefs about nature and nurture	Perbal, L. (2013). The ‘warrior gene’ and the Māori people: The responsibility of the geneticists. <i>Bioethics</i> , 27(7), 382–387. Donovan, B. M. (2022). Ending genetic essentialism through genetics education. <i>Human Genetics and Genomics Advances</i> , 3(1), 100058.
Between 4/22 and 5/1: Oral Exam (sign-ups will be made available in March)		

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



"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."