

## Nature and Nurture in Child Development

**Professor Seth Pollak**

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**Office Hour:** Wednesday, 3:30-4:30,  
Psychology 317

**Professor Jenny Saffran**

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**Office Hour:** Thursday, 1:30-2:15,  
Psychology 528

This Honors seminar is designed for first-year students. This course is about issues of nature and nurture, the origins of human behavior. Our in-class discussions, readings, and your written assignments will focus on the ways in which children's development is affected by genes and experiences. To approach this controversial topic, we will begin by providing background information, primarily through expert guest lecturers. We will then focus on two areas, emotion and language, where the debates between those who favor nature versus those who favor nurture have been particularly intense. We will examine such factors as the effects of atypical parenting (including child abuse and neglect), the role of culture, the effects of learning multiple languages, learning in the womb, new insights from the field of molecular and behavioral genetics, and what happens when children are not properly exposed to language or social interactions with others.

Both sections of this course will meet together (with both Dr. Saffran and Dr. Pollak). In addition to learning about the philosophical and biological issues in child development, we hope that this course will also help you each to further develop your scientific reasoning abilities including skills used to (a) think critically and creatively, and (b) articulate your ideas effectively in verbal discussion and through written essays. Because of this, we expect students to attend all of the class meetings this semester. Absence from class will affect your class participation grade (see below). Students who need to miss more than one class meeting this semester should speak with one of the course instructors as soon as possible.

We are fortunate to have two Writing Fellows assigned to this course, Katherine Bolton ([kabolton@wisc.edu](mailto:kabolton@wisc.edu)) and Chelsea Lindemann ([clindemann@wisc.edu](mailto:clindemann@wisc.edu)). These students will work with each of you individually to help you to improve the clarity and effectiveness of your writing. All writers can improve their work – and the Writing Fellows are trained to help. Your Writing Fellow will work with you on our two writing assignments. In each case, you will first turn in a “polished draft” for your Writing Fellow to review. The Writing Fellow will carefully read your paper, provide you with written comments, and meet with you individually for a conference to discuss your writing. You will then revise your paper and submit both your original draft with the comments from your Writing Fellow and your revised final version of the paper on the due date (shown in the syllabus). Your Writing Fellow will not be grading your work; the professors will be doing the grading. The job of the Writing Fellow is to help you improve your ability to formulate a written argument clearly and convincingly. You will be assigned to your Writing Fellow before you turn in the first assignment, in case you have any questions beforehand.

Readings will be available on the class website, which is accessible at <http://learnuw.wisc.edu>. We will post readings in the Content area of the website. There is also a space for discussion of issues relevant to class (Discussion area of the website), including things you might find in the news or on the web that you think your colleagues would find interesting to read. Updates to the syllabus will also be posted in the Content area of the website.

## Schedule

*Tuesday January 17:* Introductions, syllabus, Writing Fellows program

*Thursday January 19:* Nature and Nurture: Overview lecture

- Reading: Pinker, S. (2002). Chapters 1-3 from *The Blank Slate*. New York: Viking.

*Tuesday January 24:* Dr. Lewis Leavitt (Dept. of Pediatrics), on the complexity of thinking about nature/nurture interactions

- Reading: Hall, J. (2005). Epigenetics is here to stay. *Journal of Pediatrics*.

*Thursday January 26:* Discussion of initial impressions

- Reading: Two articles from the New York Times reviewing Nature/Nurture debates (“Getting into our genes” and “Recipe for a brain: Cup of genes – dash of experience”)

*Tuesday January 31:* Dr. Hill Goldsmith (Dept. of Psychology), on behavior genetics

- Reading: Matt Ridley (2003). Chapters 3 and 4 of *Nature via Nurture*. New York: Harper Collins.

*Thursday February 2:* Discussion of behavior genetics approaches

- Reading: Bouchard et al. *Science* paper

*Tuesday February 7:* Dr. Eric Margolis (Dept. of Philosophy), on Nature/Nurture and the philosophy of mind

- Reading: Povinelli, D. (2004). Beyond the Ape’s appearance: Escaping anthropocentrism in the study of other minds. *Daedalus*, Winter 2004.
- ***Discussion of first paper assignment***

*Thursday February 9:* Dr. Anita Bhattacharyya (Waisman Center), on embryonic stem cells

- Reading: “Brain Facts” from the Society for Neuroscience (only read through Brain Development, p.13).
- Reading: “Stem Cell Basics”, National Institutes of Health (don’t worry about the details)

*Tuesday February 14:* Discussion of philosophical foundations, neural approaches, and other background material

*Thursday February 16:* Emotion overview

- Reading: Oatley & Jenkins, Chapter 4 from *Understanding Emotions*

***Monday February 20: First paper due by 12 PM under Dr. Saffran’s office door (528 Psych)***

*Tuesday February 21:* Language overview

- Reading: Pinker (1994). Chapter 9: Baby born talking – describes heaven. *The Language Instinct*. New York: Basic Books.

*Thursday February 23*: Discussion of the Language and Emotion overview lectures

*Tuesday February 28*: Dr. Linda Camras, Dept. of Psychology, Depaul University, on cross-cultural studies of infant emotional development

- Reading: Camras, L. (2006). Culture, Ethnicity, and Children's Facial Expressions: A Study of European American, Mainland Chinese, Chinese American, and Adopted Chinese Girls. *Emotion*.
- ***Paper drafts back to students – sign up for conferences with Writing Fellows***

*Thursday March 2*: Evolutionary and biological approaches to emotion

- Reading: Darwin, C. (1890). The expression of emotions in man and animals. Second edition, Francis Darwin, Ed. London: John Murray. Excerpts, pp. 9-12.
- Reading: Davidson, R. J., Putnam, K. M., & Larson, C. L. (2000). Dysfunction in the neural circuitry of emotion regulation--a possible prelude to violence. *Science*, 289, 591-594.

*Tuesday March 7*: Evolutionary and biological approaches to language

- Reading: Peña, Maki, Kovacic, Dehaene-Lambertz, Bouquet, Koizumi, & Mehler. Sounds and silence: an optical topography study of language recognition at birth. *Proceedings of the National Academy of Sciences USA*, (10):11702-5, 2003.

*Thursday March 9*: Discussion day – cultural and evolutionary/biological approaches

***Friday March 10: First paper due by 12 PM under Dr. Saffran's office door (528 Psych). Please turn in both your final draft and the original draft with the Writing Fellow's comments.***

### ***Spring Break***

*Tuesday March 21*: How do developing humans perceive language and emotion?

- Reading: Eimas, P., Siqueland, S., Jusczyk, P., & Vigorito, J. (1971). Speech perception in infants. *Science*, 171, 303-306.
- Reading: Pollak, S. D., and Kistler, D. (2002). Early experience alters the development of categorical representations for facial expressions of emotion. *Proceedings of the National Academy of Sciences, USA*, 99, 9072-9076.

*Thursday March 23*: How do we learn about language and emotions during development?

- Reading: Saffran, J., Aslin, R., & Newport, E. (1996). Statistical learning by 8-month-old infants. *Science*, 274, 1926-1928.

*Tuesday March 28*: Critical periods for developing language and emotion

- Reading: Newport, E. (1990). Maturation constraints on language learning. *Cognitive Science*, 14.
- Reading: Rutter, M., O'Connor, T.G., & the English and Romanian Adoptee Study Team (2004). Are there biological programming effects for psychological development? Findings from a study of Romanian adoptees. *Developmental Psychology*, 40, 81-94.

*Thursday March 30*: Dr. Marie Coppola, Dept. of Psychology, University of Chicago, on children creating languages.

- Reading:

*Tuesday April 4*: Case study of Genie

- Reading: Rymer, R. (1992). A silent childhood. *The New Yorker*, April 13 & 20, 1992.

*Thursday April 6*: Discussion – maturation and experience.

- ***Discussion of second paper assignment***

*Tuesday April 11*: How experience can affect biology

- Reading: Greenough, W.T., Black, J.E., & Wallace, C.S. (1987). Experience and brain development. *Child Development*,
- Reading: Wismer Fries, A. B, Zigler, T., Kurian, J., Jacoris, S., and Pollak, S.D. (2005). Early experience in humans is associated with changes in neuro-peptides critical for regulating social behaviour. *Proceedings of the National Academy of Sciences, USA*, 102, 17237-17240.

**No class on April 13**

**Monday April 17: *Second paper due by 12 PM under Dr. Saffran's office door (528 Psych)***

*Tuesday April 18*: Moving beyond nature VERSUS nurture

- Reading: Caspi, A., McClay, J., Moffitt, T. E., Mill, J., Martin, J., Craig, I. W., Taylor, A., Poulton, R. (2002). Role of Genotype in the Cycle of Violence in Maltreated Children. *Science*, 297, 851-854.

*Thursday April 20*: Atypical Development 1

- Reading: Lenhoff et al. (1997). Williams Syndrome and the brain. *Scientific American*.

*Tuesday April 25*: Atypical Development 2

- Reading:
- ***Paper drafts back to students – sign up for conferences with Writing Fellows***

**No class on April 27**

**Monday May 1: *Second paper due by 4 PM under Dr. Saffran's office door (528 Psych). Turn in both your final draft and the original draft with the Writing Fellow's comments.***

*Tuesday May 2: Discussion of final papers*

*Thursday May 4: Paper discussion continued, plus our final discussion*

### **Assignments, Grading, and Administrative Issues**

- Your grade will be based on two written assignments (each 25%) and classroom participation (50%). If you are nervous about speaking in front of the group, please talk to one of us – we can help give you tips on how to become more comfortable participating in class. Students in this class will grade each other's class participation. Details will follow about criteria for determining grades for class participation.
- Due dates for all writing assignments are firm -- they have to be, because the class moves along quickly and the Writing Fellows and Instructors need adequate time to give you feedback on your work. For every day your paper is late to either the Writing Fellows or Instructors (beginning on the due date and time), your grade will be dropped one full letter grade (e.g., if you miss the first deadline, the highest grade you can receive on the paper is a B). Therefore, start working on your assignments early and if you are having trouble thinking through the assignment or are nervous about getting your thoughts down on paper, please speak to one of your professors as soon as possible . . . we can help. Assignments are only considered complete if you have turned in the requested work (e.g., a "polished" draft for the first due date, and the final draft plus the "polished" draft with Writing Fellow comments for the second due date).
- We expect that the content of your papers will represent your own original work for this class. Papers that you have used for other classes, or that do not properly credit other people for their words or ideas, will be failed. We recognize that this can be a hard thing to learn about, with many grey areas; if you have questions about what constitutes plagiarism, please speak to one of us.
- Please visit our office hours! Even if you don't have a specific question or issue to discuss, feel free to stop by so we can get to know you better. We expect each of you to visit with each of the instructors once during the course of the semester.
- The College and Psychology Department require that the following statement be included on all syllabi: "Occasionally a student may have a complaint about a T.A. or course instructor. If that happens, you should feel free to discuss the matter directly with the T.A. or instructor. If the complaint is about the T.A. and you do not feel comfortable discussing it with him/her, you should discuss it with the course instructor. If you do not feel the instructor has resolved the matter to your satisfaction, then you should speak to the Psychology Undergraduate Advisor, Ms. Arlene Davenport (room 428 Psychology) or the Department Chair, Professor Joe Newman (room 238 Psychology). You should also speak to either of these individuals if the complaint is about the instructor and you do not feel comfortable discussing it directly with him/her. If you believe the T.A. or course instructor has discriminated against you because of your religion, race, gender, sexual orientation, or ethnic background, you also may take your complaint to the Affirmative Action Office

(room 175 Bascom Hall). If your complaint has to do with sexual harassment, you may also take your complaint to Ms. Arlene Davenport, the Psychology Department sexual harassment contact person."