

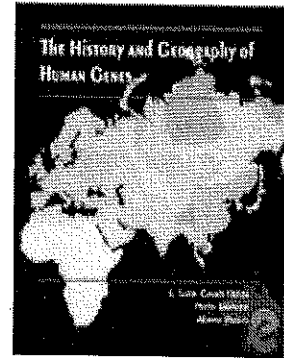
# Syllabus Psy D50

## Advanced topics in Cognition: Cognition, Health, Culture, and Evolution

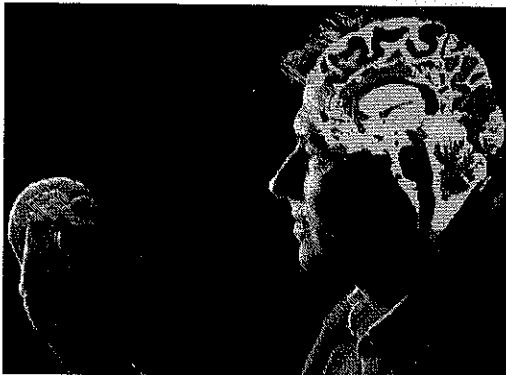
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Class times Tuesday 9-11:00

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**Course Description.** In this seminar we will investigate the ways that cognition and culture interact to produce modes of thinking that have important effects on every aspect of our behavior, particularly decisions about health, food, and the environment. How do we understand, explain, and predict people's behavior in such diverse contexts? We will begin by investigating the cognitive abilities that people are born with. These are universal cross cultural knowledge representations of biology, physics, number, language, and social relations. Then, we will explore the ways that people represent this "core" knowledge, the schemas, mental models and frames that are changed adapted and interpreted by different cultures in different ways. We have a conundrum: How can people born with innate predispositions have varied social, cultural and cognitive practices. Our goal here is to propose general mechanisms that culture and cognition use to shape our views of the world. The major issue is how can genes and environment interact to produce cultural universals and cognitive diversity. By the end of the course we should see how this is possible.



### Course Structure



The first two weeks will be when the professor outlines the basic issues, themes, and concepts that will provide a framework for the remainder of the course. In the following weeks three students will present a summary of one of the three readings for that week - one reading per student. Students must meet with each other before the class and determine how to present the papers in an engaging and informative manner. You can have games, quiz shows, be the scientist, be the subject, be the media

interpretation (which is often critical). The goal is to present the papers in an awe-inspiring manner. The last half hour of the class will be devoted to a class discussion of the themes that unify the readings for that week. Each student who is not presenting for that week will also hand in a one page reaction paper to the three readings for that week (see the section on reaction papers).

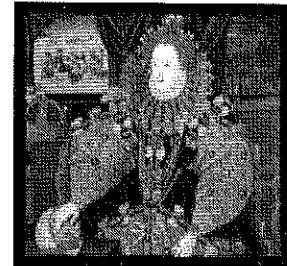
## **Blackboard**

All readings for the course will be posted on blackboard. Blackboard is a great medium for fostering class discussion outside the class itself and the three presenters for that week should post three questions for each of their three readings the weekend before the class, preferably post the questions on Friday. All students should cogitate on the questions and come to class ready to discuss and provide cogent answers to the questions. Blackboard will also be used to post grades.

**Final essay: A research proposal.** You must write a research proposal on a topic that is central to the course. The topic should be approved by the professor by February 12 2008. To obtain approval you must submit a 1 page summary of your proposal on February 12. You must also give a short 2 minute presentation of your research proposal on February 26<sup>th</sup> at the poster presentations. This will be difficult but doable. You will use powerpoint to present the poster. You need clear rationale, hypotheses, method and expected results. The final research proposal is due in at the beginning of the last class. The essay should be 10 pages double spaced 1 inch margins in times 12 point font. Use APA style. Late papers will not be accepted unless accompanied by a medical note from a university approved healthcare provider.

QuickTime™ and a decompressor are needed to see this picture.

**Reaction papers.** Each week that you are not presenting you should submit a reaction paper stating what was novel in the paper, what faults are in the paper, and how the paper stands as a piece of research. You may also suggest an alternate paper that does a better job of explaining the issues. The goal here is to get you to think deeply about the paper. Must be one to two pages long. Your reaction paper will be evaluated for clarity and thoughtfulness. The more thorough the paper, the better the grade.



The purpose of these papers is to encourage your active engagement with the readings and to provide a foundation for class discussions. These short papers are intended as writing exercises. You should become accustomed to expressing ideas in written form. Reaction papers should address a question about the paper that is thought up by you. Here are some examples of questions you might address in a reaction paper: What was the most interesting part of the reading? Explain why. Did something strike you as odd? Try to understand what it was doing there. Is there any part of the reading that was not understood? Use this writing assignment to try to figure it out. How does it relate to class discussion from a previous week? Compare some aspect of the current reading assignment with a previous one. Choose a quotation from the reading and analyze it closely.

**Grading.** In class presentations (25%), attendance (5%) reaction papers (15%) proposal presentation (15%). Final essay (25%), participation (10%)

## Topics and dates

- Week 1 Jan 8 Course Overview, handouts etc  
Week 2 Jan 15 Basic principles and concepts in complex cognition: Schemas, frames, concepts  
Week 3 Jan 22 Conceptions of Illness, disease & health  
Week 4 Jan 29 Cognitive Development and Culture: The case of Core knowledge  
Week 5 Feb 5. Mental models and causal beliefs  
Week 6 Feb 12 The Geography of thought: Eastern and Western modes of reasoning  
Week 7 Feb 19 ----- No Class READING WEEK-----  
Week 8 Feb 26 Proposal presentations  
Week 9 Mar 4 Folk thinking  
Week 10 Mar 11 Culture and the Development of conceptions of illness, disease, and the physical universe  
Week 11 Mar 18 From cross species to fMRI understanding cultural differences  
Week 12 Mar 25 From genetic evolution to cultural evolution  
Week 13 April 1 Putting it all together How we can have core concepts and cultural variation

## Readings

### **Week 1 Jan 8 Course Overview, handouts etc**

Dunbar, K. & Fugelsang, J. (2007). Thinking Reasoning and Problem solving.

### **Week 2 Jan 15 Basic principles and concepts in complex cognition: Concepts and mental models (Professor Leads)**

Brown, R. (1976) Reference: In memorial tribute to Eric Lenneberg. *Cognition*. 4, 125-153.

Development of Color Categories in Two Languages: A Longitudinal Study. By Roberson, Debi; Davidoff, Jules; Davies, Ian R. L.; Shapiro, Laura R. *Journal of Experimental Psychology: General*. 2004, 133, 554-571

Gentner, D. (2002) Mental models Psychology of. In N. J. Smelser & P. B. Bates (Eds.), *International Encyclopedia of the Social and Behavioral Sciences* (pp. 9683-9687). Amsterdam: Elsevier Science.

### **Week 3 Jan 22 Conceptions of illness, disease & health (Student led +reaction)**

Thagard, P. (2007). The concept of disease: Structure and change. On line article

Henderson and Maguire. (2000). Three Mental Models of disease inheritance. *Social Science and Medicine*. 50, 293-301.

Patel, Arocha, & Zhang Thinking and reasoning in medicine. (2005). In Holyoak and Morrison Eds. Cambridge handbook of thinking and reasoning. Cambridge University Press.

**Week 4 Jan 29. Cognitive Development and Culture: The case of Core knowledge (student led+reaction)**

Greenfield, P. (2005). Paradigms of cultural thought. In K. Holyoak, & R.G. Morrison Eds. Cambridge Handbook of thinking and reasoning.

Spelke, E. S. & Kinzler, K. D. (2007). Core Knowledge. *Developmental Science* 10, 89—96.

Dehaene, S, Izard, V., Pica, P., & Spelke, E.S. (2006). Core knowledge of geometry in an Amazonian Indigene group. *Science*, 311-384.

**Week 5 Feb 5. Mental models and causal beliefs (student led+reaction)**

Leiser, D., Doitch, E., & Meyer, J. (1996) mothers lay models of the causes and treatment of fever. *Social Science and Medicine*, 43 379-387.

Subbotsky, E. & Quinteros, G. (2002). Do cultural factors affect causal beliefs? Rational and Magical thinking in Britain and Mexico. *British Journal of Psychology*, 93, 519-543.

Fugelsang, J. A., & Dunbar, K. N. (2004). A cognitive neuroscience framework for understanding causal reasoning and the law. *Phil. Trans. R. Soc. Lond. B* (2004) 359, 1749—1754.

**Week 6 Feb 12 The Geography of thought: Eastern and Western modes of reasoning (student led + reaction)**

Nisbett, R.E., (2003) The geography of thought: How Asians and westerners think differently ... and Why works, Chapter 2. The social origins of mind and Chapter

Nisbett, R.E., (2003) The geography of thought: How Asians and westerners think differently ... and Why works, Chapter 3. Living together vs going it alone.

Maddux, W. & Yuki, M. 2006. The "Ripple Effect": Cultural Differences in Perceptions of the Consequences of Events. *Personality and Social Psychology Bulletin* , 32, 669-683

**Week 7 Feb 19 ----- No Class READING WEEK-----**

## **Week 8 Feb 26 Proposal presentations**

Each student will present their proposal for research with a background, method, and expected findings. Also students should address the question of what they would do if the research does not work out as expected. This will be difficult as you must get your core ideas across in 2 minutes.

## **Week 9 Mar 4 Folk thinking (student led + reaction)**

Waxman, S., & Medin, D. & Ross, N. (2007) Folkbiological reasoning from a cross-cultural developmental perspective: Early essentialist notions are shaped by cultural beliefs. *Developmental Psychology*, 43, 294-308.

Keil, F.C. (2003) Folkscience: Coarse interpretations of a complex reality. *Trends in Cognitive Sciences*, 7, 368-383.

Gigerenzer, G., & Edwards, A. Simple tools for understanding risk: From Innumeracy to insight. *British Medical Journal*, 327, 741-744.

## **Week 10 Mar 11 Culture and the Development of conceptions of illness, disease, and the physical universe. (student led + reaction)**

Carey, S. (1985). *Conceptual Change in Childhood*. Cambridge, MA: Bradford Books, MIT Press. Chapters 1 and 5.

Hejmadi, A., Rozin, P. Siegal, M. (2004). Once in contact always in contact: contagious essence and conceptions of purification in American and Hindu Indian children. *Developmental Psychology*, 40, 467-476.

Samarapungavan, A., Vosniadou, S., & Brewer, W.F. (1998). Mental Models of the Earth, Sun and the Moon: Indian Children's Cosmologies. *Cognitive Development*, 11, 491-521.

## **Week 11 Mar 18 from cross species to fMRI understanding cultural differences (student led + reaction)**

Herrmann, E., Call, J. Hernandez-Lloreda, M.V., Hare, B., & Tomasello, M. (2007) Humans have evolved specialized skills of social cognition: The cultural intelligence hypothesis. *Science*, 1360-1366.

Posner, M. I. (2003) Imaging a science of mind, *Trends in Cognitive Sciences*, 7, pp. 450-453.

Knutson, Wood, J. N. Spaminato, M.V., Grafman, J. 2006. Politics on the Brain an fMRI Investigation. *Social Neuroscience*, 1, 25-40

## **Week 12 Mar 25 Genes, Culture and evolution (student led+reaction)**

Chapters 1, 4, and 7 of Stone, L., Lurquin, & Cavalli-Sforza (2006) *Genes Culture, and Human Evolution, a synthesis*

Ch 1 Genetic and Cultural Theory: A Brief Overview.

Ch 4. Genetics as a Key to Human Origins and Prehistory.

Ch 5. Fundamentals of Human Evolution: Mutation and Natural Selection.

**Week 13 April 1. Putting it all together Underlying principles of cognition, culture and health**

Research proposal due at beginning of class.