

Psychology of Science: The Nature & Nurture of Scientific Thought & Behavior Current Issues in Psychology 190

Dr. Gregory Feist, Hugh Gillis 208

Office Hours: M W 1-4pm

Class Website: <http://sjsu6.blackboard.com/webct/entryPageIns.dowebct>

go here for all course information, including lecture slides, announcements, and handout; **check daily**

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My website: <http://www.gjfeist.net>

also, <http://www.psychologyofscience.org>

Required textbook: Feist, G.J. (2006). *The Psychology of Science and the Origins of the Scientific Mind*. New Haven: Yale University Press.

Week - Date	Topic	Reading/Author(s)*
1 8/25-27	Introduction	Feist, Preface, pp. 218-228
2 9/3 (9/1 Labor Day)	Science v. Pseudo-science (UFO, Ganzfield, and Telepathy)	Derry Bem, Palmer & Broughten
3 9/8-10	Evolution of Mind, Prehistoric Science	Feist, Ch. 8; Mithen
4 9/15-17	Meta-science: Philosophy of Science History of Science Sociology of Science	Popper Kuhn Merton
5 9/22-24	Psychology of Science	Feist, Ch. 1 Shadish, Houts, Gholson, & Neimeyer Houts
6 9/29-10/1	Biological Psychology of Science	Feist, Ch. 2; Baron-Cohen et al.,
7 10/6-8	Development of Scientific Reasoning Birth Order, Family Giftedness and Precocity	Feist, Ch. 3, Hogan & Maglienti Sulloway Lubinski & Benbow
8 10/13-15	Scientific Thinking	Essay EXAM 1 (Oct 13) Feist, Ch. 4; Tweney
9 10/20-22	Scientific Discovery & Creativity	Rushton, Mansfield & Busse Garfield, Parts 1 & 2
10 10/27-29	Scientific Personality	Feist, Ch. 5 Roe
11 11/3-11/6	Science and Mental Health Social Psychology of Science	Nasar (Preface) Feist, pp. 125-132, 140-144 Shadish, Fuller, & Gorman
12 11/10-12	Gender and Science	Feist, pp. 132-140; Williams & Ceci Cole & Zuckerman
	The Future of the Psychology of Science	Feist, pp. 154-156
	In class presentations	(exchange for paper; due November 19) PAPER DUE November 12
13 11/17-19	In class presentations	
14 11/24	In class presentations	
15 12/1-3	In class presentations	
16 12/8-10	In class presentations	
12/18	9:45-12	FINAL (Essay Exam; Dec 18)

Course adaptations

If you need course adaptations because of a disability, if you have emergency medical information you need to share, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible or see me during office hours.

Grading

- Both exams will be essay (100 points each). You will have to answer something like 3 out of 5 or 4 out of 6 essays questions.

In addition, you will write a term-paper (100 points). Finally, you will give a 15-20 minute oral (PowerPoint) presentation to class on any topic covered during the semester. It will be either on one topic from your papers or a historical case study of a famous scientist, but with the focus on some psychological aspect of his/her life and how that influenced his/her science—e.g., the family background, the educational/mentorships, personality, thought processes, social influences, mental health, gender, or creativity. Do NOT just give a biography of a famous scientist. Your talk must highlight the psychology of the scientists, that is, why or how his or her life, personality, family, development, gender, mental health affect his or her science.

- Two weekly **typed** written questions from the reading turned in **each Monday** class. These questions do count and will go toward your grade. NOT accepted via email. You must turn them in to class Monday. If you can't make Monday's class you can turn them in Wednesday but with a 3 point deduction. Questions won't be accepted after Wednesday for the week they are due. You do get one "gimme" (i.e., only have to turn in 11 of the 12 weeks). If you turn in all 11 weeks, you get 75 points. Each week missing is minus 6 points.

Points: (Total = 475 points; use to calculate final % and final grade)

Paper = 100 pts

Oral Presentation = 100 pts

Two Exams = 100 pts (200 total)

Weekly Questions = 75 pts

Grades:

A+ = 95% and above

B+ = 87-89%

C+ = 77-79%

D+ = 67-69%

A = 92-94%

B = 82-86%

C = 72-76%

D = 62-66%

A- = 90-91%

B- = 80-81%

C- = 70-71%

D- = 60-61%

Academic integrity

You are required to make yourself familiar with and follow the University's policies on academic integrity (<http://www2.sjsu.edu/senate/S04-12.htm>). No form of academic dishonesty will be tolerated. This includes cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. If you are caught engaging in academic dishonesty you will receive a grade of "F" for this course and your actions will be reported to the Office of Judicial Affairs. You will submit your paper to **Turnitin.com** to ensure academic integrity by detection of plagiarized material.

***Bibliographic Sources (posted on course website)**

- Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., and Clubley, E. (2001). The Autism-Spectrum Quotient (AQ): Evidence from Asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. Journal of Autism & Developmental Disorders, 31, 5-17.
- Bem, D.J., Palmer, J., & Broughton, J.S. (2001). Updating the ganzfeld database: A victim of its own success. The Journal of Parapsychology, 65, 207-218.
- Cole, S., & Zuckerman, H. (1987). Marriage, motherhood, and research performance in science. Scientific American, 256, 119-125.
- Derry, G.N. (1999). Science, pseudo-science and how to tell the difference, (pp. 158-173). What is science and how it works. Princeton, NJ: Princeton University Press.
- Feist, G.J. (2006). The Psychology of Science and the Origins of the Scientific Mind. New Haven, CT: Yale University Press.
- Garfield, E. (1989). Creativity and science: Part 1. What makes a person creative? Current Contents, 43, 3-7.
- Garfield, E. (1989). Creative and science: Part 2. The process of scientific discovery. Current Contents, 45, 3-9.
- Hogan, K., & Maglienti, M. (2001). Comparing the epistemological underpinnings of students' and scientists' reasoning about conclusions. Journal of Research in Science Teaching, 38, 663-687.
- Houts, A.C. (1989). Contributions of the psychology of science to metascience: A call for explorers, (pp. 47-88). In B. Gholson, W.R. Shadish, R.A. Neimeyer, & A.C. Houts (Eds.), Psychology of science: Contributions to metascience. Cambridge, England; Univ. of Cambridge Press.
- Kuhn, T.S. (1970). Introduction. (pp.1-9; 2nd edition). The structure of scientific revolutions. Chicago: University of Chicago Press.
- Lubinski, D., & Benbow, C.P. (1994). The study of mathematically precocious youth: The first three decades of a planned 50-year study of intellectual talent, (pp. 255-281). In R.F. Subotnik & K.D. Arnold (Eds.), Beyond Terman: Longitudinal studies of giftedness and talent. Norwood, NJ: Ablex.
- Mansfield, R.S. & Busse, T.V. (1981). Creativity in science: An introduction, (pp. 1-10). The psychology of creativity and discovery: Scientists and their work. Chicago: Nelson-Hall.
- Merton, R.K. (1973). The Matthew effect in science. (pp. 439-459). The sociology of science. Chicago: University of Chicago Press.
- Mithen, S. (1996). The evolution of mind, (pp. 195-216). The prehistory of mind. London: Thames & Hudson.
- Nasar, S. (1998). A beautiful mind—Prologue (pp. 11-22). New York: Touchstone Books.
- Popper, K. (1959). A survey of some fundamental problems, (pp. 27-48). The logic of scientific discovery. New York: Science Editions.
- Roe, A. (1953). What does it mean for you? (pp. 230-244). The making of a scientist. Westport, CT: Greenwood Press.
- Rushton, J.P. (1988). Scientific creativity: An individual difference perspective. Journal of Social and Biological Structures, 11, 140-143.
- Shadish, W. R., Fuller, S., & Gorman, M. E. (1994). Social psychology of science: A conceptual and empirical research program. In W. R. Shadish & S. Fuller (Eds.), Social psychology of science (only pp. 3-21). New York: Guilford Press.
- Shadish, W.R., Houts, A.C., Gholson, B., & Neimeyer, R.A. (1989). The psychology of science: An introduction. In B. Gholson, W.R. Shadish, R.A. Neimeyer, & A.C. Houts, (Eds.), Psychology of science: Contributions to metascience, (pp. 1-16). Cambridge, England: Cambridge
- Sulloway, F. (1996). Birth order and scientific revolutions, (pp. 20-54). Born to rebel: Birth order, family dynamics, and creative lives. New York Pantheon.
- Tweney, R. (1998). Toward a cognitive psychology of science: Recent research and implications. Current Directions, 7, 150-154.
- Williams, W.M., & Ceci, S.J. (2007). Introduction: Striving for perspective in the debate on women in science. In S.J. Ceci & W.M. Williams (Eds.). Why aren't more women in science? Top researchers debate the evidence. Washington, DC: APA.