Syllabus

Developmental Psychobiology

Course Meetings: Wednesday, 11:00 AM – 1:00 PM
Course Location: Room BV264

Instructor: David W. Haley
Office: SW 421C
Phone: (416) 208-4896
E-mail: haley@utsc.utoronto.ca
Office Hours: Thursday, 12:00 – 1:00 PM

TA: Gelareh Jowkar-Baniani
Office: TBA
Phone: TBA
E-mail: g.jowkar.baniani@utoronto.ca
Office Hours: By appointment

Course Description

This course will examine developmental and neurobiological theories that explain how infants and children learn to regulate stress in early relationships and social interactions, and how stress affects cognitive development. We begin with an introduction to stress physiology, coping, attention, and memory in infants and children. We then examine how infants and children learn to regulate stress—in ways that optimize and/or compromise opportunities for learning and memory. This course will provide a developmental framework for understanding individual differences in stress physiology and cognitive development.

Evaluation	Date(s)	Weight
Quizzes	pop	10%
Reviews (2)	Assigned	10% (5% each)
Midterm	Oct. 23	25%
Research Topic	Oct. 31	5%
Research Proposal	Nov. 28	10%
Final Exam (cumulative)	Exam week	40%

Quizzes: To evaluate your understanding of the weekly readings, short quizzes will occasionally be given. The timing and frequency of the quizzes will depend in part on a democratic process, in which students will have the opportunity to demonstrate their knowledge of the weekly readings by posing and responding to questions raised during class discussions. If students appear unfamiliar with the reading during a class discussion, then a quiz may be given.

Attendance: Attendance will be taken twice during the course rather than each week. Each time a student is noted to be absent without a written excuse from a doctor 10% will be subtracted from his or her exam grade.

Reviews: The goal of the written reviews is to provide an interesting summary of and critical reflection on the target readings. You will be assigned two reviews at the start of the semester, which will be due on the day of the assigned reading. Each review should consist of 3 double-spaced pages. The first page should provide the summary component (weighted one third), and the second and third pages should consist of the critical reflection component (weighted two thirds). The summary component should be relatively straightforward, although figuring out how to summarize the most interesting and essential points in a single page requires some talent and time. The critical reflection component is more challenging and will require much more thought and time than the summary. One way to begin to reflect critically on a reading is to consider the following questions: 1) What is the reading trying to show (main ideas, assumptions, models, methods)? 2) How convincing is it (evidence, arguments used, consistency)? and 3) What significance does it have to society (what are its applications, usefulness, and ethical implications)? *Reviews are due at the end of class.* Reviews will not be accepted late unless you can provide me with a UTSC medical note.

Research Proposal Topic: You will be required to submit a half-page, single-spaced (maximum 250 words) summary and rationale for your research proposal topic that will be worth 5% of your grade on the research proposal—i.e., 5% for the proposal topic and 10% for the proposal. You should address the following questions: What is the purpose of the study? How does your study add to what is known in the literature? How will you conduct the study? What do you expect to find?

Research Proposal: The research proposal will be 5–7 double-spaced pages, in APA format, and will be based on library research on any topic related to the development and neurobiology of stress and/or cognition. You will need to provide a review of the literature relevant to your topic and a rationale for the hypotheses. You will also need to describe the research methods for conducting the proposed study. It will be important to establish the significance of the proposed research to the field. How does the proposed research add to our knowledge or enhance our understanding? Is there a gap in the literature that your proposal addresses? This is just a proposal; no data need be collected. It must be received no later than 4:00 PM on Wednesday, November 28. Papers submitted after this time will be marked down 5% for each weekday that the paper is late.

Extra Credit (2%). 5 exam questions with ¼ page answers (before Nov 21)

Schedule and Readings

Meetings	Topics	Readings
Sept 12	Introduction	----------
Sept 19	Neurobiology of Stress I.	Gunnar & Quevedo (2007)
Sept 26	Neurobiology of Stress II.	Flinn (2006)
Oct 3	Neurobiology of Attachment	Hofer (1987)
Oct 10	Dyadic Regulation of Stress I	Tronick (2006)
Oct 17	Dyadic Regulation of Stress II	Feldman (2007)
Oct 24	**Midterm**	----------
Oct 31	Development of Coping	Skinner & Zimmer-Gembeck (2007)
Nov 7	Development of Attention	Posner & Rothbart (2007)
Nov 14	Development of Memory I	Courage & Howe (2006)
Nov 21	Development of Memory II	Alexander, Quas, & Goodman (2002)
Nov 28	**Turn in Research Proposal**	----------

Readings

Gunnar M, Quevedo K. The neurobiology of stress and development. ANNUAL REVIEW OF PSYCHOLOGY 58: 145-173 2007.

Flinn MV. Evolution and ontogeny of stress response to social challenges in the human child. DEVELOPMENTAL REVIEW 26: 138-174 2006

Hofer MA. Early social relationships: a psychobiologist's view. CHILD DEVELOPMENT 58: 633-647 JUN 1987.

Tronick E. The inherent stress of normal daily life and social interaction leads to the development of coping and resilience, and variation in resilience in infants and young children. ANN NY ACADEMY SCIENCES 1094: 83-104 2006.

Feldman, R. Parent-infant synchrony and the construction of shared timing; physiological precursors, developmental outcomes, and risk conditions. JOURNAL CHILD PSYCHOLOGY AND PSYCHIATRY 48: 329-454 2007.

Skinner EA, Zimmer-Gembeckz MJ. The development of coping. ANNUAL REVIEW OF PSYCHOLOGY 58: 119-144 2007.

Posner MI, Rothbart MK. Research on attention networks as a model for the integration of psychological science. ANNUAL REVIEW OF PSYCHOLOGY 58: 1-23 2007.

Courage ML, Howe ML. Advances in early memory development research: Insights about the dark side of the moon. DEVELOPMENTAL REVIEW 24 (1): 6-32 MAR 2004.

Alexander KW, Quas, JA, & Goodman GS. Theoretical advances in understanding children's memory for distressing events: The role of attachment. DEVELOPMENTAL REVIEW 22: 490-519.

Supplemental Readings

Porges SW. Orienting in a defensive world - mammalian modifications of our evolutionary heritage - a polyvagal theory. PSYCHOPHYSIOLOGY 32 (4): 301-318 JUL 1995.

McGaugh JL. Memory: A century of consolidation. SCIENCE 287: 248-251 2000.

Lupien SJ & McEwen BS. The acute effects of corticosteroids on cognition: Integration of animal and human model studies. BRAIN RESEARCH REVIEW 24:1-27 JUNE 1997.