

Psychology 3HH3, Term 2, 2008-2009
Development during Infancy

Meetings: Tuesday 12:30-2:20, BSB 136
Thursday, 12:30-1:20, BSB 136
Tutorials: Wednesday 3:30-4:20 KTH B132 and seminar rooms for small group meetings (to be announced)

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Readings: Courseware pack *Development during Infancy, Psychology 3HH3*

Objectives: Psychology 3HH3 concerns perceptual and cognitive development during infancy. It assumes that students have a good background in the basics of human development and that we can build on them to understand the details of development during infancy. We will consider how biological constraints and environmental influences interact to shape the infant's brain and behaviour.

Content objectives: that students

- (a) understand the nature of development during infancy and the mechanisms underlying developmental changes.
- (d) derive implications of the material for intervention with normal children and children with problems.

Skills objectives: that students become (more) skilled at

- (b) Reading and critically evaluating published studies of infants.
- (c) Synthesizing information and using it to mount an argument both orally and in writing.
- (d) Working effectively both individually and with a group.

Structure

Classes: About half the time, classes will consist of traditional lectures, supplemented by demonstrations, discussions, and problems to be solved by the whole class. The purpose of the problems and discussion is to encourage you to become actively involved in your learning. Class notes will be posted on Learnlink. The rest of the classes will be used for

group presentations and for skills-building topics (how to read a paper, how to write effectively, how to give a good oral presentation, etc.).

Learning groups: Each student will work with a learning group of approximately four supervised by one of the teaching assistants. These groups will work together on the class presentation and may also choose to work together as a study group or on the smaller projects that will be assigned from time to time. Collaborating on these projects is meant to promote learning both about the course material and working effectively in a group. It's also meant to make the learning fun.

Group presentation. Each group will be asked to teach one of the topics in the course. In developing the presentation, the group should use the relevant articles in the coursepack as a starting point and then find additional articles in the peer-reviewed literature using the reference sections from the required readings, medline, Psycinfo, and other search tools. Your group is responsible for the lecture on your topic—make sure you find the key articles, figure out what is known on the topic, and identify areas of uncertainty.

The presentation *and discussion* should last not more than 45 minutes, with no more than 30 minutes devoted to the presentation. It should give an accurate summary of current knowledge and should allow time for thoughtful discussion about the implications of the findings. You should try to make the presentation engaging and get the class involved in the discussion. You may use visual aids, discussion questions, a skit—whatever helps you to present the material in an informative and engaging way. It should also be memorable—because the material may appear on the final exam.

You may decide to take different roles in the group presentation but each group member should participate in its preparation, in the discussion, and in answering questions. Oral presentations will be graded by the instructor, the teaching assistants, and the class based on the content, logical flow, clarity of presentation, and quality of discussion.

After the presentation, each member of the group will be asked to hand in a written evaluation of the contributions of each group member. There will be a form posted on Learnlink for the evaluations. Typically, all group members will receive the same grade, but the instructor will factor-in evidence of unequal contributions as shown by the peer evaluations, teaching assistants' assessment, postings on Learnlink, and role in the discussion. When there is evidence that a student did not pull his or her weight, the instructor may adjust the presentation mark for that individual.

Tutorials: The scheduled tutorial hour on Wednesdays will normally be set aside for groups to meet to work on their group presentation. Groups are expected to meet in their assigned spot during this time, so that the teaching assistants and the instructor can find them to monitor progress and offer advice. Groups are also expected to post their work in their folder on Learnlink for the same reason. Failure to do so will be interpreted as evidence that the group is not working on the project. Especially if your presentation is early in the term, you will need to have additional meetings outside class time in order to

be prepared to teach your class. After the group finishes the class presentation, it is welcome to continue to meet as a study group, but that is not required.

Participation in class discussions and preparation of short assignments. Students are expected to take part in class discussions. To help you prepare for these discussions, there will be occasional short assignments that will be given in class and posted on Learnlink. You should allocate 1 hour/week for such assignments so that you have enough time to complete them between the end of one class and the start of the next. 15% of your grade will be based on participating in class and completing these assignments, with more marks given if the work is of higher quality.

Major essay related to group project. Each student is expected to write an individual essay related to the topic presented by the group. It can be on a sub-topic or even a tangent but must be somehow related to the group's topic. You may talk with classmates about your ideas, but should write the essay independently. Copying the wording of others, be it in another student's paper or a published article, will be considered plagiarism.

The essay should be 6-8 pages long, not including references, double-spaced. It should summarize the relevant papers and then go beyond them to provide an analysis and critique of what is known. It should then relate the information to the overarching developmental questions about the nature of developmental change (e.g., innate constraints, core knowledge, experience-expectant, experience-dependent, neuroconstructivism). Your analysis might include pointing out a weakness in the method used, discussing contradictory findings, describing methods to test some of the claims made, pointing out an alternative interpretation, noting weaknesses in the argument etc. The essay is due three weeks after your group presentation or April 5, whichever is earlier.

The essay will be graded on content, logical flow, original thinking, and style.

Exam: There will be an open-book final exam written during the regular examination period. The questions will require integration across the course material and its application to practical problems.

Practice question/small paper: You will receive a choice of questions of the type that will appear on the final exam (but of smaller scope) and be asked to choose one of the questions and to write a 2 to 3-page paper (typed, double-spaced) answering it. Due dates will be staggered throughout the term, based on the topic. The paper will be graded for content, logical flow, synthesis of the course material, and clarity of style. This paper is intended as a way of practicing for the final exam and hence will be worth only 5% of the final mark.

Learnlink: We will use Learnlink as a communication platform outside class time. Through Learnlink you will be able to read announcements about the class, print out lecture notes, indicate what your group is doing so as to receive feedback from the

teaching assistants and the instructor, ask for assistance, read and answer sample questions, see what other students are doing, and help each other to learn. In other words, it should allow students to be more in touch with the instructor and with fellow students.

Summary of Requirements

Marks will be determined as a weighted average calculated as follows:

Group presentation	See tentative schedule	20
Major essay	3 weeks after group presentation or April 7, if earlier	25
Participation in class and on Learnlink		15
Answer to practice question	staggered dates (to be announced)	5
Final exam	April Examination period	35

Grades will be assigned roughly as follows:

A+ 90-100; A 85-90; A- 80-84; B+ 77-79; B 73-76; B- 70-72
C+ 67-69; C 63-66; C- 60-62; D+ 57-59; D 53-56; D- 50-52; F 0-49

Late work

Late work will not be accepted for the practice question or answers to miniassignments on Learnlink. The major essay will be accepted without penalty until midnight on the day it is due. After that, the penalty for turning the major essay in late will be 2% per day (out of 100).

I reserve the right (a) to alter the course requirements or their weighting, depending on the course enrollment, availability of teaching assistants, or other practical considerations and (b) to adjust a student's final grade either up or down in light of special circumstances and/or the student's overall performance in the course.

“Attention is drawn to the Statement on Academic Ethics and the Senate Resolutions on Academic Dishonesty as found in the Senate Policy Statements distributed at registration and available in the Senate Office. Any student who infringes one of these resolutions will be treated according to the published policy.”

Psychology 3HH3 2008-2009 Tentative Schedule

January 6	Introduction Description of group topics How to find articles; how to read and critically evaluate an article
January 7	No tutorial
January 8	How to work effectively with a group
By January 9	Deadline for indicating preference for group topics by email or Learnlink message to instructor
January 13	Fetal development Maurer, D. & Maurer, C. Chapter 2, The View from the Womb
January 14	Tutorial (and every Wednesday until your group presentation): Meet with your assigned group in assigned location (to be posted on Learnlink)
January 15	How to improve your writing
January 20, 22	Mechanisms of development Elman, E. New Perspectives on Development from <i>Rethinking Innateness</i> Spelke, E., & Kinzler, K. (2007). Core knowledge. <i>Developmental Science</i> , 10, 89-96. Westermann, G., Mareschal, D., Johnson, M., Sirois, S., Spratling, M., & Thomas, M. (2007). Neuroconstructivism. <i>Developmental Science</i> , 10, 75-83.
January 27	Smell and taste Maurer, D., & Maurer, C. Chapter 5, A Question of Taste.
January 29	Tutorial: extra tutorial for working on group project
February 3	How to give an effective oral presentation; overcoming performance anxiety

- February 3, 5, 10 Vision
Maurer, D., & Maurer, C. Chapter 6, Bright Sights.
- February 10 **Group presentation 1**
Visual processing in newborns: are faces special?
Turati, C., Simion, F., Milani, I., & Umiltà, C. (2002).
Newborns' preference for faces: what is crucial?
Developmental Psychology, 38, 875-882.
- February 12 **Group presentation 2**
The influence of experience on face processing during infancy
Kelly, D., Quinn, P., Slater, A., Lee, K., Ge, L., & Pascalis, O. (2007). The other-race effect develops during infancy: evidence of perceptual narrowing. *Psychological Science*, 18, 1084-1089.
- February 16-20 Midterm recess
- February 24 Touch, the vestibular system and motor development
Maurer, D., & Maurer, C. Chapter 8, Activities of the day
- Group presentation 3**
Swaddling: How does it affect infant's development and what is the mechanism?
Van Sleuwen, B., Engelberts, A., Boere-Boonekamp, M., Kuis, W., Schulpen, T., & L'Hoir, M. (2007). Swaddling: a systematic review. *Pediatrics*, 120, 1097-1106.
- February 26 **Group presentation 4**
Massage: How does it affect the development of preterm infants and what is the mechanism?
Diego, M., Field, T., & Hernandez-Reif, M. (2005). Vagal activity, gastric motility, and weight gain in massaged preterm neonates. *Journal of Pediatrics*, 147, 50-55.
- March 3 **Group presentation 5**
The influence of motor experience on cognitive development during infancy
Clearfield, M. (2004). The role of crawling and walking experience in infant spatial memory. *Journal of Experimental Child Psychology*, 89, 214-241.
- March 3, 5,10 Hearing and language

Maurer, D., & Maurer, C., Chapter 7, Sounds of Life

March 10

Group presentation 6

Changes in speech perception during infancy: Loss of foreign or gain of native?

Kuhl, P., Stevens, E., Hayashi, A., Deguchi, T., Kiritani, S., & Iverson, P. (2006). Infants show a facilitation effect for native language phonetic perception between 6 and 12 months of age. *Developmental Science*, 9, F13-F21.

March 12

Group presentation 7

Plasticity of language learning: Lessons from bilingualism

Werker, J., & Byers-Heinlein, K. (2008). Bilingualism in infancy: first steps in perception and comprehension. *Trends in Cognitive Science*, 12, 144-151.

March 17

Group presentation 8

Plasticity of language learning: Lessons from sign language

Krentz, U., & Corina, D. Preference for language in early infancy: the human language bias is not speech specific. *Developmental Science*, 2008, 11, 1-9.

Group presentation 9

Plasticity of language learning: Lessons from focal lesions

Chilosi, A., Pecini, C., Cipriani, P., Brovedani, P., Brizzolara, D., Ferreti, G., Pfanner, L., & Cioni, G. (2005). Atypical language lateralization and early linguistic development in children with focal brain lesions. *Developmental Medicine and Child Neurology*, 47, 725-730.

March 18 (N.B. WEDNESDAY tutorial hour)

Group presentation 10

Auditory processing in infants: is music special?

Hannon, E., & Trehub, S. (2005). Tuning to musical rhythm: infants learn more readily than adults. *Proceedings of the National Academy of Science USA*, 102, 12639-12643.

March 19, 24

Concepts

Maurer, D., & Maurer, C. Chapter 10, Through the Looking Glass

March 24	<p>Group presentation 11 Early concepts: what types of categories do infants understand? Quinn, P. (2004). Development of subordinate-level categorization in 3- to 7-month-old infants. <i>Child Development</i>, 75, 886-899.</p>
March 25 (N.B. WEDNESDAY tutorial hour)	<p>Group presentation 12 Infant arithmetic: what do infants understand about addition and subtraction? Kobayashi, T., Hiraki, K., Mugianti, R., & Hasegawa, T. (2004). Baby arithmetic: one object plus one tone. <i>Cognition</i>, 91, B23-B34.</p>
March 26	<p>Group presentation 13 Object concept: what do infants understand? Luo, Y., Baillargeon, R., Brueckner, L., & Munakata, Y. (2003). Reasoning about a hidden object after a delay: evidence for robust representations in 5-month-old infants. <i>Cognition</i>, 88, B3-32.</p>
March 31	<p>Group presentation 14 Imitation: do infants learn by imitation or do they need to learn to imitate? Elsner, B. (2007). Infants' imitation of goal-directed actions: the role of movements and action effects.. <i>Acta Psychologica (Amsterdam)</i>, 124, 44-59.</p> <p>Group presentation 15 Emerging theory of mind: to what extent do infants understand the perspective of others? Liszkowski, U., Carpenter, M., & Tomasello, M. (2008). Twelve-month-olds communicate helpfully and appropriately for knowledgeable and ignorant partners. <i>Cognition</i>, 108, 732-739.</p>
April 2	No class
April 7	Review and wrap-up
April Exam Period	Final examination

Group projects

1. Visual processing in newborns: are faces special?
2. The influence of experience on face processing during infancy
3. Swaddling: How does it affect infants' development and what is the mechanism?
4. Massage therapy: How does it affect the development of preterm infants and what is the mechanism?
5. The influence of motor experience on development: the role of action in motor and cognitive development
6. Auditory processing in infants: is language special?
7. Plasticity of language learning: Lessons from bilingualism
8. Plasticity of language learning: Lessons from sign language
9. Plasticity of language learning: Lessons from children with focal lesions
10. Auditory processing in infants: is music special?
11. Early concepts: what types of categories do infants understand?
12. Infant arithmetic: what do infants understand about addition and subtraction?
13. Object concept: what do infants understand?
14. Imitation: do infants learn by imitation or do they need to learn to imitate?
15. Emerging theory of mind: to what extent do infants understand the perspective of others?