

Cognitive Development

HCS/PSY/ACN 6331

Spring 2018

Tuesday, 1:00 – 3:45pm, CRA 12.125

Contact Information

Dr. Noah Sasson, nsasson@utdallas.edu

Office: GR 4.116; (972) 883-2541

Office Hours: By Appointment

Course Description

This course surveys major theories and research findings relating to cognitive development from birth to adulthood. Class time will be spent fostering the understanding of various perspectives, and evaluating the strengths, weaknesses and implications of empirical research related to covered topics. Because discussion is critical to the success of the course, you will need to come to class having completed all assigned readings and prepared to participate actively.

Course Prerequisites

Though there are no formal prerequisites for this class, it is highly recommended that enrolled students have completed the following undergraduate courses: Introduction to Psychology, Developmental/Child/Lifespan Psychology, Cognitive Psychology, and Research Design and Statistics for Psychology. If you are unfamiliar with content from these courses, the material presented in this class may prove excessively challenging.

Learning Objectives:

Students will be able to:

1. Recognize and evaluate current theories of cognitive development in children, distinguish key developmental milestones, and assess implications of these theories and milestones for research, social policy and professional practice.
2. Develop skills in the analysis, synthesis, and critique of research findings within areas of cognitive development, including infant perception, social and nonsocial representational thought, memory, intelligence and more.
3. Refine personal research interests within cognitive development through the crafting of a detailed research proposal, and develop academic communication abilities by leading the class in a presentation and discussion of assigned articles.

Course Materials

Required Textbook:

Bjorklund, D.F. & Causey, K.B. (2018). *Children's Thinking: Cognitive Development and Individual Differences (6th edition)*. SAGE Publishing.

Required readings from academic journals will also be assigned each week. These are listed below under “Course Schedule” and are available for download on the e-learning webpage for this course. It is also possible that additional articles not listed may be assigned during the course of the semester.

Grading Scale

Scores for all components listed above will be compiled and grades assigned according to the following scale. Plus and minus (+/-) grades may also be assigned at the discretion of the instructor. *No extra credit assignments will be offered.*

- A: 90-100
- B: 80-89
- C: 70-79
- F: below 70

Course Requirements

Final course grades are based on the following requirements:

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|---------------------------------|-----|
| 1. <u>Participation</u> | 50% |
| a. Discussion Questions (15%) | |
| b. Class Leader (20%) | |
| c. In-Class Participation (15%) | |
| 2. <u>Midterm Exam</u> | 25% |
| 3. <u>Research Proposal</u> | 25% |

1. Participation

a. *Discussion Questions*

Each week you will submit two or three substantive questions designed to elicit class discussion on the assigned journal article(s). You will post these questions within the e-learning Discussion Forum designated for that week. Each student should create a thread within the forum for his/her questions, and title the thread with his/her name in order to receive credit. You do not need to submit discussion questions for the week you are class leader. **Discussion questions must be posted by Monday at noon.** Class leaders can then incorporate these questions in their discussion of the articles.

Your questions should be substantive and theoretical; for instance they may relate to thoughts, ideas, or critiques generated by the assigned readings (e.g., “From my perspective, theory X and theory Y are not necessarily mutually exclusive. Do you think they could be integrated to account for different aspects of this phenomenon?”). You may include a question that seeks clarification on some aspect of the reading (e.g., “Could we discuss theory X in class? I’m not sure I understand what it is proposing”), but this question does not count towards your required two questions. Whatever questions you pose, be prepared to elaborate on them in class.

Your questions will be graded on a scale of 1 to 5 each week. Thoughtful questions specifically borne out of the assigned readings will receive high scores. Generic questions that could be applied to many readings (“Do you think this differs for boys and girls?”) will receive lower scores. Your lowest grade will be dropped, and the remainder averaged to determine your final grade.

b. *Class Leader*

For one class during the semester, you and another student will act as class leaders. During class, the leaders will give a short summary (~10-15 minutes) of the articles assigned that week. You may choose to use the A/V equipment (e.g., via Powerpoint) to assist your presentation, but this is not required. These presentations may incorporate additional resources, including the corresponding textbook chapter, to supplement and contextualize your summary of the articles. You may also choose to present demonstrations of relevant tasks or concepts, but again this is not required. Following the presentation, the class leaders will then lead the class in a discussion of the articles using the questions submitted by the other students. Because these questions will be publically available on e-learning for everyone to review by Monday afternoon, **all students should come to class prepared to discuss their peers' discussion questions for the week.**

Class leaders will lead class beginning on Feb. 6th. You will sign up for a slot by during our first class meeting.

c. *In-class Participation*

The benefit you derive from this course will be limited unless you come to class prepared and use our time together to engage with the assigned material. I will be looking for thoughtful input that indicates that you are helping yourself and other students extract meaning and relevance from the readings. Brilliance is not required (though it is of course welcomed). If you are shy about speaking up in groups, this is a good time to work on overcoming it in a supportive environment. Overall, my role, and that of your fellow students in this class, is to support you in your development as a thinker, researcher and writer.

2. Midterm Exam

The midterm exam will take place in-class on March 6th. The exam will consist of essay responses to three broad questions chosen by me from a list of six posted on e-learning at least one week before the exam. You are encouraged to prepare your answers to these questions in advance, but the exam will NOT be open book or notes. Responses are limited to approximately three pages per question, so make sure your answers are concise and focused. I will especially be looking for answers that are supported by cited evidence. You may bring in a laptop to type your answers if you so desire and email them to me immediately upon completing the exam but you are prohibited from accessing the internet or other files on your computer during the exam. Make-up exams are not offered, except in cases of documented emergencies or illness in which I am notified prior to the exam date.

3. Research Proposal

For the culmination of the course, you will submit a research proposal that will roughly follow the guidelines for an R03, a small grant award that parallels those for a Postdoctoral National Research Service Award (F32). You may choose any topic related to cognitive development, but this proposal will help you the most if it informs, refines, and furthers your own personal research goals. If you are currently developing or pursuing a research or thesis project, the proposal may relate to it but may not consist of

work you have already completed outside this course. Journals that may have relevant articles to your proposal include *Developmental Psychology*, *Cognitive Development*, *Journal of Experimental Child Psychology*, *Journal of Cognition and Development*, *Child Development*, *Journal of Child Language*, *Infant Behavior and Development*, *Infancy*, and *Developmental Science*.

You will be responsible for working on this proposal outside of class, and it is highly recommended that you work on it continually over the course of the semester. I have compiled a series of suggested deadlines below to which you would be wise to adhere. You will not submit any materials on these dates, but ignoring them will make completion of a quality research proposal much more difficult.

Proposal Requirements:

The descriptions for these requirements are taken in a modified form from the instructions for completing an application for an R03 federal grant application. All pages should be **single-spaced**. Do not forget to include references. At least five primary source articles should be cited, likely more. Formatting should adhere to APA style. I have posted a past proposal of mine on e-learning that may be helpful to use as an example. Your proposal should consist of the following:

1. *Specific Aims*: This will be the first page of the proposal. List the broad question you seek to address, and the objectives of the specific research proposed (e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, or develop a new technology). This needs to be a tight and focused summary of the rationale of your proposed study with specific aims and hypotheses explicitly noted. Like an abstract to an article, it is often wise to complete the final version of this section last. **Specific Aims are limited to 1 page.**
2. *Research Strategy*: Organize this section using the subheadings and instructions provided below. **The complete Research Strategy section should be 3-4 pages.**
 - a. *Significance*: Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses. Describe how the proposed project will improve scientific knowledge or clinical practice in one or more broad areas. You should briefly sketch the background leading to the present application, critically evaluate existing knowledge, and specify the gaps that the project is intended to fill. State concisely the importance and relevance of the research described in this application by relating the specific aims to the broad, long-term objectives. 1.5 pages are recommended.
 - b. *Innovation*: Explain how the application challenges and seeks to shift current research or clinical practice paradigms. Describe any novel theoretical concepts, approaches or methodologies, instrumentation or interventions to be developed or used, and any advantage over existing methodologies, instrumentation, or intervention. Explain any refinements, improvements, or new applications of theoretical concepts, approaches, or methodologies, instrumentation, or

interventions. This should all be done concisely in about half a page.

- c. Approach: Describe the overall research design and the procedures to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted. This essentially is the “methods” section of your proposal, and while you will not include any results (it is a proposed study after all), you should provide information about how you will know if your hypothesis is supported. This could include proposed statistical analyses but these are not required. One to two pages are recommended.

3. List of Cited References

Suggested Proposal Deadlines:

Feb. 27: By this point, you should have identified a potential research question and have read five or six pertinent articles to refine your hypotheses. You may not end up using each of these articles, but this will reflect your progress in reading toward your proposal.

Mar. 20: Rough draft of proposal specific aims and hypotheses.

Apr. 10: Updated/refined specific aims and hypotheses, plus a detailed sketch or outline of the Research Strategy section.

The research proposal is due by 5pm on May 1st. You are welcome to turn it in earlier.

Course Schedule

Jan. 9: Course Overview and Introductions

Jan. 16: Themes and Theories of Development

1. Bjorklund, Chapter 1
2. Bronfenbrenner, U. (1994). Ecological Models of Human Development.
3. Schwartz, M. A. (2008). The importance of stupidity in scientific research. *Journal of Cell Science*.

Jan. 23: Nature and Nurture: How do Genes and Environment Interact?

1. Bjorklund, Chapter 2 (pp. 23-25 and “Models of Gene-Environment Interaction, pp. 33-42)
2. Gottlieb, G. (2007). Probabilistic epigenesis. *Developmental Science*.
3. Scarr, S. (1993). Biological and cultural diversity: the legacy of Darwin for development. *Child Development*

Jan. 30: Evolutionary and Neural Foundations of Cognitive Development

1. Bjorklund, Chapter 2 (pp.34-38; pp. 42-61)

2. Geary, D. C. (1995). Reflections of evolution and culture in children's cognition: Implications for mathematical development and instruction. *American Psychologist*.
3. Stiles, J. (2008). On genes, brains, and behavior: Why should developmental psychologists care about brain development? *Child Development Perspectives*, 3, 196- 202.

Feb. 6: Infant Perception and Cognition

1. Bjorklund, Chapter 4
2. Scott, L., & Monesson (2009). The origin of biases in face perception. *Psychological Science*.
3. Gopnick, A. (2010) How Babies Think. *Scientific American*.

Feb. 13: Piaget and Symbolic Representation

1. Bjorklund, Chapter 5
2. Duckworth, E. (1972). The Having of Wonderful Ideas.
3. DeLoache, J. S. (2004). Becoming symbol-minded. *Trends in Cognitive Sciences*, 8, 66-70.

Feb. 20: Constructing an Understanding about the World: Theory Theories

1. Bjorklund, Chapter 6
2. Dunham, Y., Baron, A. S., & Banaji, M. R. (2008). The development of implicit intergroup cognition. *Trends in cognitive sciences*, 12(7), 248-253.
3. Wellman, H. M. (2017). The Development of Theory of Mind: historical perspectives. *Child Development Perspectives*, 11(3), 207-214.

Feb. 27: Executive Function, Information Processing and Problem-Solving

1. Bjorklund, Chapter 7
2. Diamond, A., & Lee, K. (2011). Interventions Shown to Aid Executive Function Development in Children 4 to 12 Years Old. *Science*, 333(6045), 959-964.
3. Carlson, S., Davis, A., & Leach, J. (2005). Less is more: Executive function and symbolic representation in preschool children. *Psychological Science*, 16, 609 – 616.

Mar. 6: *Midterm Exam*

Mar. 13: Spring Break

Mar 20: Memory

1. Bjorklund, Chapter 8
2. Bruck & Cici (1999). The suggestibility of the children's memory. *Annual Review of Psychology*.

Mar. 27: Language Development

1. Bjorklund, Chapter 9
2. Senghas, A., Kita, S., & Ozyurek, A. (2004). Children Creating Core Properties of Language.. Science.
3. Talbolt, M. (2015). The Talking Cure. The New Yorker.

Apr. 3: Sociocultural Influences

1. Bjorklund, Chapters 3 & 10
2. Bigler, R. S., & Wright, Y. F. (2014). Reading, Writing, Arithmetic, and Racism? Risks and Benefits to Teaching Children about Intergroup Biases. *Child Development Perspectives*, 8(1), 18-23.
3. Dinishak, J., & Akhtar, N. (2013). A critical examination of mindblindness as a metaphor for autism. *Child Development Perspectives*.

Apr. 10: Schooling

1. Bjorklund, Chapter 11
2. Bassok et al. (2016). Is Kindergarten the New First Grade? *AREA Open*.
3. This American Life (July 31, 2015), "The Problem We All Live With":
Listen: <https://www.thisamericanlife.org/radio-archives/episode/562/the-problem-we-all-live-with-part-one>
Transcript: <https://www.thisamericanlife.org/radio-archives/episode/562/transcript>

Apr. 17: Intelligence(s)

1. Bjorklund, Chapter 12
2. R. Sternberg, R. J. (1995). Interview in *Skeptic Magazine*.
3. Dweck, C. S. (2007). Is math a gift? Beliefs that put females at risk. Why aren't more women in science: Top researchers debate the evidence (pp. 47-55). Washington, DC US: American Psychological Association.

Apr. 24: Cognitive Modification and Intervention

1. Bjorklund, Chapter 13
2. Gershoff, E. T., Aber, J. L., Raver, C. C., & Lennon, M. C. (2007). Income is not enough: Incorporating material hardship into models of income associations with parenting and child development. *Child Development*, 78(1), 70-95.
3. Nelson et al (2007). Cognitive recovery in socially deprived young children: the Bucharest early intervention project. *Science*.

May 1: Research Proposal Due (5pm)

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations, which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/8836391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is 90% effective.

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the

academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22 PO Box 830688
Richardson, Texas 75083-0688

(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.