

PSY 475/575 COGNITIVE DEVELOPMENT WINTER 2019 SYLLABUS

Class meets T/Th 4:00-5:20 PM in Straub 254

INSTRUCTOR

Dr. Caitlin Fausey
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TEACHING ASSISTANTS

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COURSE OVERVIEW

How do we get so smart? How do we go from being babbling babies held in the arms of others to walking talking toddlers (and beyond!)? How do we learn to perceive the world around us and what to pay attention to? How do we learn to talk, remember the past, or predict the future? How do experiences in infancy and childhood matter for building knowledge? These are the questions we will attempt to answer as we survey the major topics in cognitive development.

COURSE MATERIALS

There will be no textbook in PSY 475/575. All readings and study guides will be provided electronically as PDF files on our Canvas site.

INSTRUCTION PHILOSOPHY

This is not your first course in psychology and I expect that you look forward to delving deeper. You come to this course with more skills than you may realize -- you have learned about many psychological phenomena, you have tackled foundational psychology methods and statistics, and you may have worked in a psychology research lab. Even if not all of these are true of your particular experience, I can guarantee that you know more than you think you do.

If your goal is to successfully read a Cognitive Development textbook, you don't need me. If you want to understand how real discoveries about human development are made, then you do need me. Original research articles are your best way into understanding how scientists develop questions, go about testing hypotheses, and share discoveries with the world. Reading and discussing original research articles is a challenge that you are ready to tackle, with appropriate support. That is what I am here for, and that is what we'll work on throughout this course. Welcome.

LEARNING GOALS FOR THIS COURSE

You will develop many skills in this course. Your efforts will help you learn to:

- (1) Identify major theories, research findings, and methodological approaches in cognitive development and apply research findings to human behavior in everyday life.
- (2) Identify key research questions and hypotheses in primary scientific articles and critically evaluate the evidence presented.

EXPECTATIONS & GRADING

Your job is to come to class, do the readings, get involved in the material, work through study guides, and ask lots of questions. The class grades will be based on in-class quizzes, thought assignments, and a final exam.

Readings. Expect to dedicate considerable time outside of class to the readings -- it will be both demanding and rewarding. You are expected to complete the assigned readings before the class and to take an active role in the class. Material from the readings will be on quizzes and the final exam. You will also apply principles from the readings to thought assignments.

Quizzes. In-class quizzes will happen every other Thursday (approximately; see syllabus). These quizzes are designed to help you use knowledge throughout the course. Each quiz will take no more than 30 minutes of our class time. Quizzes will cover material presented in lectures and in the readings. You can prepare for these quizzes by coming to class, doing the reading, and working through study guides that will be provided.

Students may drop one quiz grade, no questions asked. This could be because you missed class on a quiz day (and so you received a 0 score) or it could be the lowest quiz grade of your 4 quizzes. Because of this generous policy, make-up quizzes will only be offered in extraordinary circumstances with documented proof of medical or family emergency. If you happen to miss a quiz day, you will drop that quiz.

Thought assignments. You will complete two thought assignments that prompt you to integrate course material with current hot topics in education, business, public health, and/or the law. The goal is to encourage you to relate what you are learning to other things you care about. For each assignment, you will act as a "Cognitive Development Consultant": you will design an experiment to provide an empirical answer to the question posed and you will summarize your predictions. For each assignment, you will submit a one-page single-spaced report to Canvas. The readings and lectures in this course will be very good preparation for these assignments and for your future success as a "Cognitive Development" consultant in your chosen profession. (Note: These assignments are referred to as "HW" -- for "Homework" -- on the syllabus. **Due dates are Thursday, January 24, 2019 at 10 PM and Thursday, February 21, 2019 at 10 PM**).

Final Exam. The final exam will cover material presented in lectures and in the readings. The final exam will be a cumulative exam covering the full quarter of material. According to the Final Exam Schedule from the Office of the Registrar, the final exam for this course will be given on **Wednesday March 20, 2019 at 12:30 PM**. No alternate date/times for this exam will be allowed.

FINAL LETTER GRADE

Final letter grades will be assigned according to the table on the right. "Percent" is calculated by a weighted average of the percent correct on all assignments, quizzes, and exams, adjusting for the percent that each counts toward your final grade. Decimals will be rounded to the nearest percent.

Final letter grades will be weighted like this:

In-class quizzes (best 3 of 4): 45% (each quiz = 15%)
Thought assignments: 30% (each HW = 15%)
Final exam: 25%

grade	percent
A+	97-100
A	90-96
B+	87-89
B	80-86
C+	77-79
C	70-76
D+	67-69
D	60-66
F	<=59

GRADUATE STUDENTS ENROLLED IN 575

Students enrolled in 575 must complete roughly one-third more work than students enrolled in 475. *Please make an appointment with Dr. Fausey during Week 1.* We will discuss expectations for additional graduate-level effort. We will aim to align efforts with your graduate research goals.

ACADEMIC HONESTY

The short version: Don't cheat. Don't plagiarize. If you are unsure, please ask me.

As a member of the university community you are expected to be honest and forthright in all of your academic endeavors. To falsify the results of one's research, to present the words, ideas, data, or work of another as one's own, or to cheat on an examination corrupts the essential process by which knowledge is advanced.

All work submitted in this course must be your own and produced exclusively for this course. It is considered cheating if you obtain any kind of information about answers and solutions to the work in this course from any non-intended source (including your peers) or if you transfer such information to others. You may not use notes, readings, or other aids during PSY 475/575 quizzes or exams. You may study with other students in preparation for an exam, but your answers on a quiz or exam must be your own. It is also considered cheating if you lie to Dr. Fausey, Ms. Hernandez, or Ms. Loi about an absence relating to an assignment, quiz, or exam.

Another form of academic misconduct is plagiarism, or using someone else's ideas and words without appropriate citation on a written assignment. The use of sources (ideas, quotations, paraphrases) must be properly acknowledged and documented. Do not copy from Wikipedia, other college students' papers, scholarly articles, websites, and a host of other sources. In this course, all submitted work will be checked by VeriCite. Do not attempt plagiarism because you will be caught. Plagiarism is academic misconduct and cases of plagiarism will be treated as such.

Please note that it is mandatory for instructors to report suspected academic misconduct to the Office of Student Conduct. Violations will be taken seriously and are noted on student disciplinary records. For more information about academic honesty, see the University Student Conduct Code at dos.uoregon.edu/conduct.

TITLE IX

I am a student-directed employee. For information about my reporting obligations as an employee, please see titleix.uoregon.edu. Students experiencing any form of prohibited discrimination or harassment, including sex or gender based violence, may seek information at: safe.uoregon.edu, respect.uoregon.edu, titleix.uoregon.edu, aaeo.uoregon.edu, contact the non-confidential Title IX office (541-346-8136), AAEO office (541-346-3123), Dean of Students offices (541-346-3216), or call the 24-7 hotline 541-346-SAFE for help.

I am a mandatory reporter of child abuse. Please find more information at hr.uoregon.edu/policies-leaves/general-information/mandatory-reporting-child-abuse-and-neglect/presidents-message.

SPECIAL ACCOMMODATIONS: ACCESSIBLE EDUCATION CENTER (AEC)

If you have a documented disability and anticipate needing accommodations in this course, please notify Dr. Fausey as soon as possible. Also, please request that a counselor at the Accessible Education Center (uoaec@uoregon.edu, 541-346-1155) send a letter verifying the type of accommodation that is appropriate. For a list of resources provided by the Accessible Education Center, please see aec.uoregon.edu.

FAQ

What if I miss a quiz or exam?

With the exception of extreme and unforeseen circumstances, contacting Dr. Fausey on the day of (or even worse, after) the quiz/exam will be considered an unexcused absence and will result in a 0 on the quiz/exam. If you have a scheduling conflict and cannot take a quiz or an exam at its appointed date and time, you must tell Dr. Fausey as soon as possible. Your best strategy is to take quizzes and exams on their scheduled date/time.

What if I turn in an assignment late?

If you submit an assignment after its due date, your grade on the assignment will be reduced by 50%. This is true whether you submit your assignment 1, 2, 3, 4, or 5 days late. After 5 days, late work will no longer be accepted without some documented medical or family emergency. Your best strategy is to submit assignments on time.

Do you grade on a curve? Offer extra credit?

No, I do not grade on a curve. No, I do not offer extra credit except for what is stated below. Your best strategy is to focus your energy on doing your best on all of your work.

Optional: psychology research extra credit

You may choose **only one** of the following extra credit options. You may choose one or the other, but cannot get credit for both, nor for any combination of the two. Extra credit work is due by **Friday March 8, 2019, 5 PM.**

Extra Credit Option 1: Participate in Psychology Department research through the Psychology Department Human Subjects Pool. For each credit of participation assigned to Psych 475/575, you earn a 1% improvement to your final grade, for up to 2%. No more than 2% extra credit points are permitted. Please note: A Psychology Department policy states that students may earn no more than 60% of their course-related credit by completing online studies. Thus, for this course, a maximum of 1 hours of online studies will count. For more information, go to the HSP website at uopsych.sona-systems.com and/or contact the human subjects coordinator by email at hscoord@uoregon.edu.

Extra Credit Option 2: Find an empirical article relevant to the study of cognitive development in a major, peer-reviewed journal, summarize it, and evaluate its contribution to our understanding of cognitive development. You will earn up to 2% extra credit, depending on the quality of your critique. A terrific critique is approximately 3 double-spaced pages with a concise summary and insightful comments based on your knowledge developed throughout this course. You must seek approval of your article from Dr. Fausey before beginning your critique. To receive the extra credit, you will need to hand in a copy of the article and the critique.

Do you take attendance?

No, I do not take attendance. I expect you to make responsible decisions about managing your time. Please note that this course uses no textbook and so the majority of your learning will come through class lectures and the opportunity to ask questions during class. Each lecture is designed with you in mind. Your best strategy is to show up and reap the benefits.

DISCLAIMER

This syllabus is an outline of the course and its policies, which may be changed for reasonable purposes during the quarter at the instructor's discretion. You will be notified in class and/or via email if any changes are made to this syllabus and an updated syllabus will be provided on Canvas.

Day	Date	Description	Reading	Quiz / HW
INTRODUCTION				
T	Jan 8	Developmental milestones		
TH	Jan 10	What is cognitive development? How to read an empirical paper	Siegler Smith & Thelen Roediger & Gallo	
MOVING				
T	Jan 15	Crawling, cruising, walking	Adolph et al.	
SEEING				
TH	Jan 17	Visual attention: social	Frank et al.	QUIZ #1
T	Jan 22	Visual attention: objects	Smith et al.	
TH	Jan 24	Why moving matters for seeing	Kretch et al.	HW #1
TALKING				
T	Jan 29	Role of the environment	Weisleder & Fernald	QUIZ #2
TH	Jan 31	Sounds and words	Kuhl et al. Werker et al.	
T	Feb 5	Learning language	Smith et al.	
TH	Feb 7	Meaning	Baldwin Deák et al.	
T	Feb 12	Why moving & seeing matter for talking	Yu & Smith	
LEARNING, REMEMBERING, & REASONING				
TH	Feb 14	Learning patterns: language	Saffran et al.	QUIZ #3
T	Feb 19	Learning patterns: vision & action	Fiser & Aslin Baldwin et al.	HW #2
TH	Feb 21	Learning categories	Madole & Oakes	
T	Feb 26	Attention, memory, & learning	Fisher et al.	
TH	Feb 28	Relational thinking	Kotovskyy & Gentner	QUIZ #4
T	Mar 5	Why talking matters for learning, remembering, & reasoning	Christie & Gentner	
DEVELOPMENTAL PATHWAYS				
TH	Mar 7	Class discussion: Cog. Development real-world policy	Neville et al.	Come with questions!
T	Mar 12	Putting it all together: Course Review	Smith	
TH	Mar 14	Putting it all together: Course Review		
FINAL EXAM WEEK				
WED	Mar 20	12:30 PM - 2:30 PM CUMULATIVE FINAL EXAM.		

Reading List

These are required readings. Each reading is posted on Canvas and is assigned for a particular class session. Class sessions and study guides will help you identify and reinforce the key points from each reading. Your best bet is to read before class, come to class, and work through study guides.

INTRODUCTION

- Siegler, R. (2014). Cognitive Development in Childhood. In R. Biswas-Diener & E. Diener (Eds.), *Noba Textbook Series: Psychology*. Champaign, IL: DEF publishers. DOI: nobaproject.com.
- Smith, L. B., & Thelen, E. (2003). Development as a dynamic system. *Trends in Cognitive Sciences*, 7(8), 343-348.
- Roediger, H.L., & Gallo, D.A. (1999). Appendix: How to read a journal article in cognitive psychology. In D.A. Balota & E.J. Marsh (Eds.), *Cognitive psychology: key readings*. New York: Psychology Press.

MOVING

- Adolph, K. E., Berger, S. E., & Leo, A. J. (2011). Developmental continuity? Crawling, cruising, and walking. *Developmental Science*, 14(2), 306-318.

SEEING

- Frank, M. C., Vul, E., & Johnson, S. P. (2009). Development of infants' attention to faces during the first year. *Cognition*, 110(2), 160-170.
- Smith, L. B., Yu, C., & Pereira, A. F. (2011). Not your mother's view: The dynamics of toddler visual experience. *Developmental Science*, 14(1), 9-17.
- Kretch, K. S., Franchak, J. M., & Adolph, K. E. (2014). Crawling and walking infants see the world differently. *Child Development*, 85(4), 1503-1518.

TALKING

- Weisleder, A., & Fernald, A. (2013). Talking to children matters: Early language experience strengthens processing and builds vocabulary. *Psychological Science*, 24(11), 2143-2152.
- Kuhl, P. K., Williams, K. A., Lacerda, F., Stevens, K. N., & Lindblom, B. (1992). Linguistic experience alters phonetic perception in infants by 6 months of age. *Science*, 255(5044), 606-608.
- Werker, J. F., Gilbert, J. H., Humphrey, K., & Tees, R. C. (1981). Developmental aspects of cross-language speech perception. *Child Development*, 52(1), 349-355.
- Smith, L. B., Jones, S. S., Landau, B., Gershkoff-Stowe, L., & Samuelson, L. (2002). Object name learning provides on-the-job training for attention. *Psychological Science*, 13(1), 13-19.
- Baldwin, D. A. (1993). Early referential understanding: Infants' ability to recognize referential acts for what they are. *Developmental Psychology*, 29(5), 832.
- Deák, G. O., Krasno, A. M., Triesch, J., Lewis, J., & Sepeta, L. (2014). Watch the hands: infants can learn to follow gaze by seeing adults manipulate objects. *Developmental Science*, 17(2), 270-281.
- Yu, C., & Smith, L. B. (2012). Embodied attention and word learning by toddlers. *Cognition*, 125(2), 244-262.

LEARNING, REMEMBERING, & REASONING

- Saffran, J. R., Aslin, R. N., & Newport, E. L. (1996). Statistical learning by 8-month-old infants. *Science*, 274(5294), 1926-1928.
- Fiser, J., & Aslin, R. N. (2002). Statistical learning of new visual feature combinations by infants. *Proceedings of the National Academy of Sciences*, 99(24), 15822-15826.
- Baldwin, D. A., Baird, J. A., Saylor, M. M., & Clark, M. A. (2001). Infants parse dynamic action. *Child Development*, 72(3), 708-717.
- Madole, K. L., & Oakes, L. M. (1999). Making sense of infant categorization: Stable processes and changing representations. *Developmental Review*, 19(2), 263-296.
- Fisher, A.V., Godwin, K.E., & Seltman, H. (2014). Visual environment, attention allocation, and learning in young children: When too much of a good thing may be bad. *Psychological Science*, 25(7), 1362-1370.
- *NOTE: We will do an in-class exercise together about this paper. It will be posted on Canvas AFTER class.*
- Kotovskiy, L., & Gentner, D. (1996). Comparison and categorization in the development of relational similarity. *Child Development*, 67(6), 2797-2822.
- Christie, S., & Gentner, D. (2012). Language and cognition in development. In M.M. Spivey, K. McRae, & M. Joanisse (Eds.), *The Cambridge Handbook of Psycholinguistics* (pp. 653-673). Cambridge: Cambridge University Press.

DEVELOPMENTAL PATHWAYS

- Neville, H. J., Stevens, C., Pakulak, E., Bell, T. A., Fanning, J., Klein, S., & Isbell, E. (2013). Family-based training program improves brain function, cognition, and behavior in lower socioeconomic status preschoolers. *Proceedings of the National Academy of Sciences*, 110(29), 12138-12143.
- Smith, L.B. (2013). It's all connected: Pathways in visual object recognition and early noun learning. *American Psychologist*, 68(8), 618-629.

Further readings for interested students

Note: These are not required readings. You will not be tested on any content that is specific to these articles. These references are provided here for students who may be interested in learning more about particular topics. Peruse this list to discover more gems about cognitive development! Enjoy!

Pro-tip: Use google scholar! Type in any of these scholars' names and you'll discover a wealth of developmental science.

- Adolph, K. E., Cole, W. G., Komati, M., Garciaguirre, J. S., Badaly, D., Lingeman, J. M., Chan, G. L. Y., & Sotsky, R. B. (2012). How do you learn to walk? Thousands of steps and dozens of falls per day. *Psychological Science*, 23, 1387-1394.
- Balas, B., & Saville, A. (2017). Hometown size affects the processing of naturalistic face variability. *Vision research*, 141, 228-236.
- Beckage, N., Smith, L., & Hills, T. (2011). Small worlds and semantic network growth in typical and late talkers. *PloS One*, 6(5), e19348.
- Bergelson, E., & Swingle, D. (2012). At 6–9 months, human infants know the meanings of many common nouns. *Proceedings of the National Academy of Sciences*, 109(9), 3253-3258.
- Carvalho, P., Vales, C., Fausey, C.M., & Smith, L.B. (in press). Novel names extend for how long preschool children sample visual information. *Journal of Experimental Child Psychology*.
- Colombo, J. (2001). The development of visual attention in infancy. *Annual Review of Psychology*, 52(1), 337-367.
- Fausey, C.M., Jayaraman, S., & Smith, L.B. (2016). From faces to hands: Changing visual input in the first two years. *Cognition*, 152, 101-107.
- Franchak, J. M. (2018). Changing Opportunities for Learning in Everyday Life: Infant Body Position Over the First Year. *Infancy*.
- Franchak, J. M., Kretch, K. S., Soska, K. C., & Adolph, K. E. (2011). Head-mounted eye-tracking: A new method to describe infant looking. *Child Development*, 82, 1738-1750.
- Frank, M. C., Bergelson, E., Bergmann, C., Cristia, A., Floccia, C., Gervain, J., ... & Lew-Williams, C. (2017). A collaborative approach to infant research: Promoting reproducibility, best practices, and theory-building. *Infancy*, 22(4), 421-435.
- Hoyos, C., & Gentner, D. (2017). Generating explanations via analogical comparison. *Psychonomic Bulletin & Review*, 24(5), 1364-1374.
- Johnson, S. P. (2010). Development of visual perception. *Wiley Interdisciplinary Reviews: Cognitive Science*. DOI: 10.1002/wcs.128
- Kidd, C., Palmeri, H., & Aslin, R. N. (2013). Rational snacking: Young children's decision-making on the marshmallow task is moderated by beliefs about environmental reliability. *Cognition*, 126(1), 109-114.
- Lee, D.K., Cole, W.G., Golenia, L., & Adolph, K.E. (2017). The cost of simplifying developmental phenomena: A new perspective on learning to walk. *Developmental Science*, 2017, e12615.
- Lew-Williams, C., Pelucchi, B., & Saffran, J. R. (2011). Isolated words enhance statistical language learning in infancy. *Developmental Science*, 14(6), 1323-1329.
- Marchman, V. A., & Fernald, A. (2008). Speed of word recognition and vocabulary knowledge in infancy predict cognitive and language outcomes in later childhood. *Developmental Science*, 11, F9-F16.
- Oakes, L. M. (2017). Sample Size, Statistical Power, and False Conclusions in Infant Looking-Time Research. *Infancy*, 22(4), 436-469.
- Oakes, L. M., & Bauer, P. J. (2007). *Short-and long-term memory in infancy and early childhood: Taking the first steps toward remembering*. Oxford University Press, USA.
- Oller, D. K., & Eilers, R. E. (1988). The role of audition in infant babbling. *Child Development*, 441-449.
- Oudeyer, P. Y. (2017). What do we learn about development from baby robots?. *Wiley Interdisciplinary Reviews: Cognitive Science*, 8(1-2).
- Pickron, C. B., Iyer, A., Fava, E., & Scott, L. S. (2017). Learning to Individuate: The Specificity of Labels Differentially Impacts Infant Visual Attention. *Child Development*.
- Rovee-Collier, C. (1995). Time windows in cognitive development. *Developmental Psychology*, 31(2), 147.
- Roy, B. C., Frank, M. C., DeCamp, P., Miller, M., & Roy, D. (2015). Predicting the birth of a spoken word. *Proceedings of the National Academy of Sciences*, 112(41), 12663-12668.
- Ruff, H. A., & Lawson, K. R. (1990). Development of sustained, focused attention in young children during free play. *Developmental Psychology*, 26(1), 85-93.
- Ruff, H. A., & Rothbart, M. K. (2001). *Attention in early development: Themes and variations*. Oxford University Press.
- Smith, L.B., Jayaraman, S., Clerkin, E., & Yu, C. (in press). The developing infant creates a curriculum for statistical learning. *Trends in Cognitive Sciences*.
- Smith, L. B., & Yu, C. (2008). Infants rapidly learn word-referent mappings via cross-situational statistics. *Cognition*, 106(3), 1558-1568.
- Vlach, H. A., Sandhofer, C. M., & Kornell, N. (2008). The spacing effect in children's memory and category induction. *Cognition*, 109(1), 163-167.
- Weisleder, A., Cates, C. B., Dreyer, B. P., Johnson, S. B., Huberman, H. S., Seery, A. M., ... & Mendelsohn, A. L. (2016). Promotion of positive parenting and prevention of socioemotional disparities. *Pediatrics*, peds-2015.
- Yu, C., & Smith, L. B. (2016). The social origins of sustained attention in one-year-old human infants. *Current Biology*, 26(9), 1235-1240.