

Cognition: Basic Processes
UN2210
3 points
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Times
Place

Bulletin Description

An introduction to basic concepts in cognitive psychology. Topics include theories and phenomena in areas such as attention, memory, concepts and categories, language, reasoning, decision making, and consciousness.

Prerequisites

PSYC UN1001 The Science of Psychology, or an equivalent introductory course in psychology.

Note: This class overlaps substantially with PSYC 2821 – Cognition in Context. Therefore, students cannot receive major credit for both classes.

Aims of this class

The topic of this class is the human mind. In addition to exploring some of the most current theories about how we perceive, remember, speak, and reason (among other abilities), we'll learn about how psychologists investigate these elusive processes. Students will develop an understanding of how psychologists translate a grand theoretical question like "how does our memory work?" into empirical questions that can actually be tested and measured. As we proceed through our survey of the mind, we will look carefully at the data supporting our claims and also consider alternative explanations for results in the literature. These will be invaluable tools in other psychology classes, classes in other disciplines, and throughout life. A final aim is for you to develop a fascination with the peculiarities of the human mind. As I'll explain the first class, by "pulling back the curtain," I believe we can get a little closer to the magic.

Textbook: Cognition: Exploring the Science of the Mind, by Daniel Reisberg, 8th Edition. ISBN: 0393921778; ISBN13: 9780393921779. Alternative versions of the text are okay, but please make sure the chapter themes align with those in the syllabus.

Additional readings will be available on Canvas. These include optional readings for each class, for students who wish to delve deeper into a particular area of cognition.

Class format

Each class will consist of 2 parts.

Part 1: Lecture/slides

I will post all of my slides to Canvas so you have access to them, but I will go into greater detail in my lecture. You are encouraged to ask questions and to contribute to class discussions throughout the lecture.

Part 2: Classwork

During the last hour (roughly), we will divide into small groups to work on answering questions related to the lecture topic. These questions will include simple comprehension questions, questions applying the material in new ways, your thoughts about how the material relates to other topics and to real-world situations, etc. During each classwork, we will also practice evaluating the relationship between a key experiment's theoretical questions (what the authors want to know) and the experiment's empirical questions (what they measure). This will help you gain a deeper understanding of the topic of the day as well as prepare you for the final paper.

During classwork, I will be available to answer all questions and to help you think through the material. I will also be available for discussion about extensions of the topic that go beyond the scope of the class. You are strongly encouraged to work in small groups during this time in order to foster collaboration, but may choose to work alone. You may use any resources you like when doing classwork.

Classwork is due at the end of each class (either in hard copy or submitted on Canvas).

Grading

There are 400 total possible points for the semester.

- Each classwork is worth 25 points (total of 300 classwork points for the semester).
- The final essay is worth 100 points.

Final Essay

- You should work alone (not in a group) for the essay.
- For this essay, you will choose any peer-reviewed, empirical journal article relating to cognition that you find on your own. You should not choose an article describing an experiment that we have analyzed together in class.
- The goal of the essay is to analyze the relationship between the theoretical and empirical questions in this article, which is a skill we'll practice throughout the semester.
- The essay should be approximately 1000 words.
- More details will be available in the *Essay Guidelines* posted on Canvas.
- By the middle of Week 4 (Date to be added), students should submit a PDF of their empirical article on Canvas for approval
- Optional: By the end of Week 5 (Date to be added), students should submit a draft of their essay if they would like feedback.
- The final essay is due on (Date to be added)

Extra Credit Policy

Please note that because all of the assignments are open-notes/open-book and you have the opportunity to work with other students, I will not be offering extra credit opportunities. If you truly put in the effort throughout the semester and keep good attendance, you should be able to do well in this class.

Attendance Policy

Students are strongly encouraged to attend class. If you are sick or have some other legitimate reason for needing to miss class, please email me as soon as you are able, and we can arrange a deadline for you to make up the missed classwork.

Late Policy

You should be able to complete all assignments other than the final essay during class. For this reason, late work will not be accepted. If there is some reason you truly need an extension, please reach out to me as early as possible, and we can discuss. I trust that you won't ask for an extension unless there is a true extenuating circumstance.

Academic integrity. As a member of the academic community, one of your responsibilities is to uphold principles of honesty and integrity. This means that you can only present your own work on assignments and presentations — plagiarism is strictly prohibited, as is presenting work as your own when it was done by someone else. Doing so compromises your academic integrity and potentially your academic standing. If you are falling behind, don't understand the material, or are not confident about your writing or presentation, talk to me as soon as possible instead of taking measures that go against principles of academic integrity. [Columbia's Honor Code in Columbia's Guide to Academic Integrity (<http://www.college.columbia.edu/academics/academicintegrity>)].

Students with disabilities. If you are a student with special needs and require accommodation, meet me before the first class to discuss your needs. You must also contact Disability Services before the first class to register for specific accommodations (<https://health.columbia.edu/disability-services>).

Schedule

Class #	Topic	Required reading	Optional reading
1	Foundations	Chapter 1	
2	Perception	Chapter 3	Wang et al
3	Attention	Chapter 5	Oberauer
4	Memory	Chapter 6	Greene et al
5	Theory of mind	Chapter by Wellman (on Canvas)	Barrett et al
6	Symbolic Development	Chapter by DeLoache (on Canvas)	Sheehan & Uttal
7	Concepts & categories	Chapter 9	Leslie
8	Language Part 1	Chapter 10	Medina et al
9	Language Part 2	Wolff & Holmes (on Canvas)	Houghton et al
10	Reasoning & decision making	Chapter 12	Dorin et al
11	Moral cognition	Awad et al	Haidt
12	Consciousness	Chapter 15	Shepherd

Commented [N11]: Once we know the dates, I'll update this with actual dates

Full reading list (required & optional)

Primary textbook: Cognition: Exploring the Science of the Mind, by Daniel Reisberg, 8th Edition

Wang, S., Zhang, Y., & Baillergeon, R. (2016). Young infants view physically possible support events as unexpected: New evidence for rule learning. *Cognition*, 157, 1 – 5.

Oberauer, K. (2019). Working memory and attention: A conceptual analysis and review. *Journal of Cognition*, 2(1): 36, pp. 1–23.

Greene, C.M., Nash, R.A. & Murphy, G. (2021) Misremembering Brexit: partisan bias and individual predictors of false memories for fake news stories among Brexit voters, *Memory*, 29:5, 587-604.

Wellman, H.M. (2014). Developing a theory of mind. In Goswami, U. (ed.) *The Wiley-Blackwell handbook of childhood cognitive development, second edition*. Wiley-Blackwell, New York: 258-283.

Barrett, H.C. et al. (2013). Early false belief understanding in traditional non-Western societies. *Proceedings of the Royal Society: Biological Sciences*, 280, 1-7.

DeLoache, J.S. (2014). Early development of the understanding and use of symbolic artifacts. In Goswami, U. (ed.) *The Wiley-Blackwell handbook of childhood cognitive development, second edition*. Wiley-Blackwell, New York: 258-283.

Sheehan, K.J. & Uttal, D.H. (2016). Children’s learning from touchscreens: *A dual representation perspective*. *Frontiers in Psychology*, 1-5.

Leslie, S.J. (2012). Generics articulate default generalizations. *Recherches Linguistiques de Vincennes: New Perspectives on Genericity at the Interfaces (A. Mari, ed.)*, 41, 25-45.

Medina, T.N, Snedecker, S., Trueswell, J.C., & Gleitman, L.R. (2011). How words can and cannot be learned by observation. *Proceedings of the National Academy of Sciences*, 108(22), 9014-9019.

Wolff, P. & Holmes, K. Linguistic Relativity. (2011). *WIREs Cognitive Science*, 2, 253-265.

Houghton, K.J, Upadhyay, S.S.N., & Klin, C.M. (2018). Punctuation in text messages may convey abruptness. *Computers in Human Behavior*, (80), 112-121.

Dorin, C., Hainguerlot, M., Huber-Yahi, H., Vergnaud, J., & de Gardelle, V. (2021). How economic success shapes redistribution: The role of self-serving beliefs, in-group bias, and justice principles. *Judgment and Decision Making*, 16(4), 932-949.

Haidt, J. (2001). The emotional dog and its rational tail: a social intuitionist approach to moral judgment. *Psychological review*, 108(4), 814-834.

Awad, E., Levine, S., Kleiman-Weiner, M., Dsouza, S., Tenenbaum, J., Shariff, A., Bonnefon, J.F., Rahwan, I. (2019). Drivers are blamed more than their automated cars when both make mistakes. *Nature: Human Behavior*.

Shepherd, J. (2012). Free will and consciousness: experimental studies. *Consciousness and cognition*, 21, 915-927.